# MHC-2700

# SERVICE MANUAL

*AEP Model*
*UK Model*

- MHC-2700 is composed of following models. As for the service manual, it is issured for each component model, then, please refer to it.

## COMPONENT MODEL NAME FOR MHC-2700

| | |
|---|---|
| AMPLIFIER | 6033 TA-H2700 1/26/05/5 |
| CD PLAYER | CDP-H3700 1/22/17/3 |
| TUNER | 5982 ST-H3700 2/23/16/4 |
| CASSETTE DECK | 6044 TC-H2700 |
| SPEAKER SYSTEM | 6268 SS-H2700 |

## SPECIFICATIONS

| | |
|---|---|
| Power requirements | AEP, G, IT model:<br>220V—230V, 50/60 Hz<br>UK model: 240V, 50Hz |
| Power consumption | AEP, G, IT model: 140 watts<br>UK model: 310 watts |
| Dimensions | Approx. 225 x 365 x 275 mm (w/h/d)<br>(8 7/8 x 14 3/8 x 10 7/8 inches)<br>incl. projecting parts and controls |
| Weight | Approx. 9.6kg (21 lb 3 oz) |
| Supplied accessories | Remote Commander (1) (RM-S270)<br>Sony SUM-3 (NS) batteries (2)<br>AM loop antenna (1)<br>FM antenna (1)<br>AC power cord (1)<br>Flat cord (2) |

Design and specifications subject to change without notice.

- G : Germany model
- IT : Italian model

## PARTS LIST

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | ACCESSORIES & PACKING MATERIALS<br>****************************** | |
| | 1-501-369-11 | ANTENNA | |
| | 1-501-374-11 | ANTENNA, LOOP | |
| ⚠ | 1-558-032-11 | CORD, POWER (UK) | |
| ⚠ | 1-575-131-11 | CORD, POWER (AEP, G, IT) | |
| | 1-574-927-21 | CORD (WITH CONNECTOR) (TA-ST) | |
| | 1-590-870-11 | CORD (WITH CONNECTOR) (TA-TC-CD) | |
| | 1-693-084-11 | REMOTE COMMANDER (RM-S270) | |
| | 3-707-584-31 | COVER, BATTERY (RM-S270) | |
| * | 3-378-785-01 | CUSHION (FRONT) (TC) | |
| * | 3-378-786-01 | CUSHION (REAR) (TC) | |
| | 3-755-076-11 | MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE, DUTCH) (AEP) | |
| | 3-755-076-41 | MANUAL, INSTRUCTION (GERMAN, SWEDISH, ITALIAN, PORTUGUESE) (AEP, IT) | |
| | 3-755-076-51 | MANUAL, INSTRUCTION (ENGLISH, GERMAN) (UK, G) | |
| | 4-910-323-01 | SHEET, PROTECTION (TC) | |
| | 4-920-941-01 | SHEET (B), PROTECTION (CDP) | |
| * | 4-945-075-01 | CUSHION (RIGHT) (TA) | |
| * | 4-945-076-01 | CUSHION (LEFT) (TA) | |
| * | T-8151-803-1 | CUSHION (A) (SS) | |
| * | T-8151-851-1 | CUSHION (B) (SS) | |
| * | 4-952-428-01 | INDIVIDUAL CARTON (TA, TC, CDP, ST) (AEP, UK) | |
| * | T-8151-820-1 | INDIVIDUAL CARTON (SS) | |
| * | 4-952-434-01 | INDIVIDUAL CARTON (TA, TC, CDP) (AEP, IT, G) | |

# MINI Hi-Fi COMPONENT SYSTEM

**SONY**®

MICROFILM

**9-957-114-11**

**Sony Corporation**
**Audio Group**

**English**
92D0459-1
Printed in Japan
© 1992. 4

**Published by Customer Relations and Service Group**

# TA-H2700

# SERVICE MANUAL

*AEP Model*
*UK Model*
*E Model*
*Australian Model*
*Tourist Model*

SONY
VOLUME
VIDEO
TAPE
DAT
CD
TUNER
PHONO
MHC-2700

This set is the Amplifier section in MHC-2700 and FH-E757.

This photo is AEP, UK, G and IT model.

## SPECIFICATIONS

| | |
|---|---|
| Continuous RMS power output | 40+40 watts (6 ohms at 1kHz, 5% THD)<br>(For AEP, UK, G, IT)<br>35+35 watts (6 ohms at 1kHz, DIN)<br>(For E, AUS, EA, JE) |
| Music power output<br>(for AEP, UK, G, IT) | 60+60 watts (6 ohms at 1kHz, 10% THD) |
| Peak music power output<br>(for E, AUS, EA, JE) | 480 watts (4 speakers driven) |
| Inputs | MIX MIC (minijack):<br>(For E, AUS, EA, JE):<br>sensitivity 1mV,<br>impedance 600 ohms<br>ADAPTOR (pin jacks)<br>(For E, AUS, EA, JE):<br>sensitivity 300mV,<br>impedance 47 kilohms |
| Outputs | HEADPHONES<br>(stereo minijack):<br>accepts headphones of 8 ohms or more.<br>ADAPTOR (pin jacks)<br>(For E, AUS, EA, JE):<br>output level 300mV<br>impedance 10 kilohms |

Design and specifications subject to change without notice.

- G : Germany model
- IT : Italian model
- AUS : Australian model
- EA : Saudi Arabia model
- JE : Tourist model

MICROFILM

**SAFETY-RELATED COMPONENT WARNING!!**

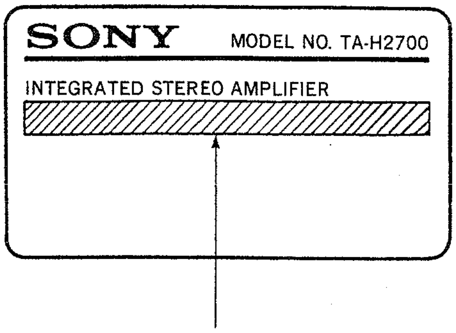
**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

## INTEGRATED STEREO AMPLIFIER

**SONY**®

## MODEL IDENTIFICATION

—Model Number Label—



AEP, G model : AC : 220—230V~50/60Hz
IT model : AC : 220—230V~50Hz
UK model : AC : 240V~50Hz
E, AUS, EA,
JE model : AC : 120/220/240V~50/60Hz 140W

- G : Germany model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  JE : Tourist model

## TABLE OF CONTENTS

*Section* *Title* *Page*

### 1. GENERAL

1-1. Parts Identification ..............................2

### 2. DISASSEMBLY

2-1. Front Panel Assy ..............................3
2-2. Jack Board, Speaker Board ......................3
2-3. Audio Board, AC Board ..........................4
2-4. Power Amplifier Board, Power Transformer ......4

### 3. DIAGRAMS

3-1. Circuit Boards Location ..........................5
3-2. Semiconductor Lead Layouts......................6
3-3. Printed Wiring Board—Audio Section— ..........7
3-4. Schematic Diagram—Audio Section— ............9
3-5. Schematic Diagram—AC/Volume Section— ......13
3-6. Printed Wiring Boards—AC/Volume Section— ....17
3-7. Printed Wiring Boards
—Power/Power Amplifier Section— ..............19
3-8. Schematic Diagram
—Power/Power Amplifier Section— ..............21
3-9. Schematic Diagram—Panel Section— ............24
3-10. Printed Wiring Board—Panel Section— ..........27
3-11. Pin Functions of IC501 (μPD78134GF-051-3B9) ....31

### 4. EXPLODED VIEW

4-1. Main Section....................................33

5. ELECTRICAL PARTS LIST ......................35

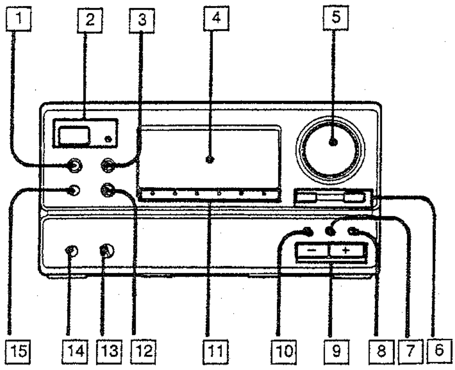
* * *

# SECTION 1
# GENERAL

This section is extracted from instruction manual.

## 1-1. PARTS IDENTIFICATION

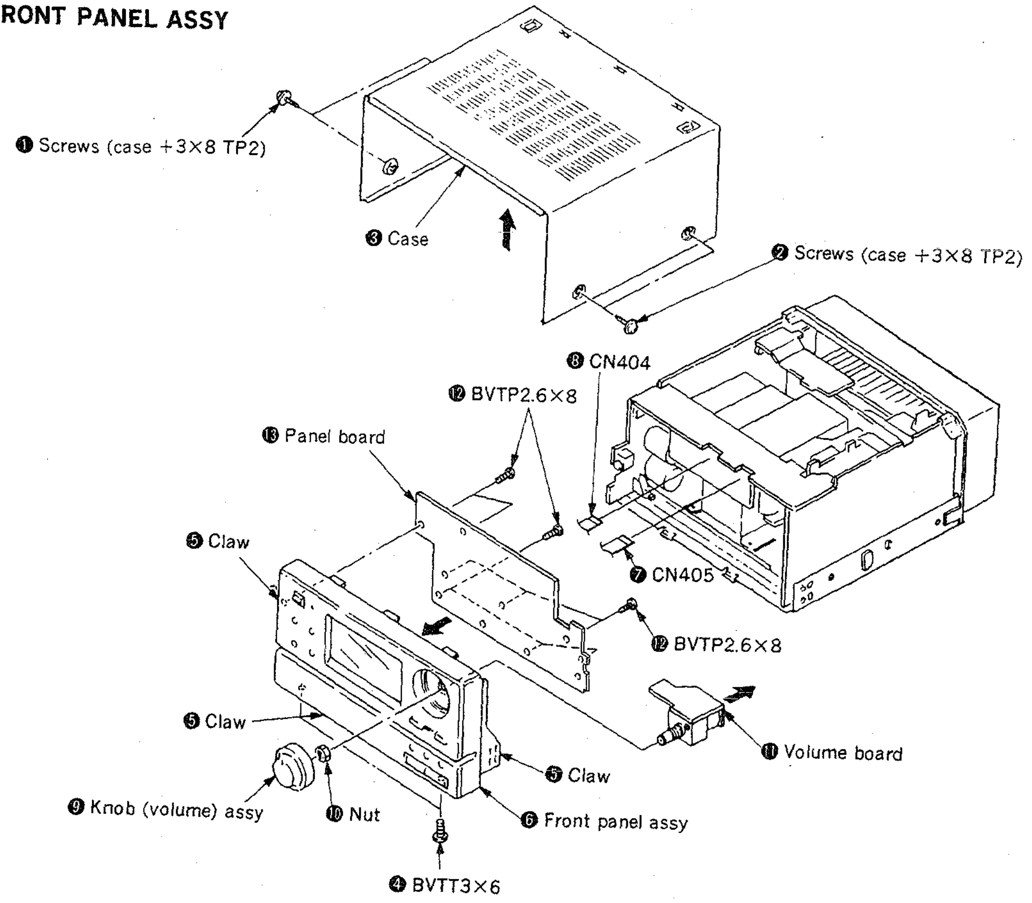
1 WAKE UP VOL SET button and indicator (108)
2 SYSTEM POWER switch and STANDBY indicator
The indicator remains lit as long as the AC power cord is connected to a wall outlet.
3 DISPLAY button (63)
4 Display window
5 VOLUME control ㉖
6 FUNCTION <> buttons ⑳
7 T.P.O. button (62)
8 DIRECT button (61)
9 TOTAL EFFECT CONTROL –/+ buttons (66)
10 MUSIC button (62)
11 Function indicators
12 (For AEP, UK, G, IT) MUTING button, (For E, AUS, EA, JE) KARAOKE PON button and indicator
13 MIC (microphone) LEVEL control (For E, AUS, EA, JE)
14 MIX MIC (microphone) input jack (For E, AUS, EA, JE)
15 HEADPHONES jack (stereo minijack)



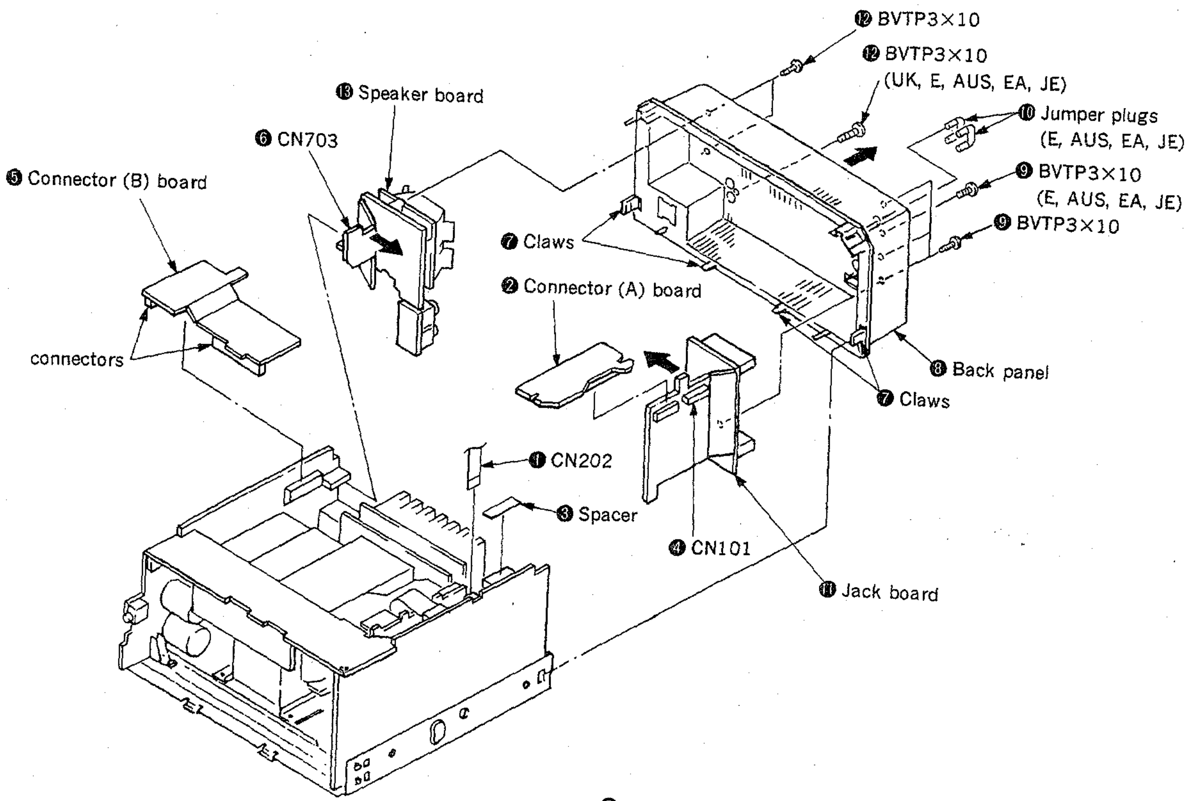
# SECTION 2
# DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.

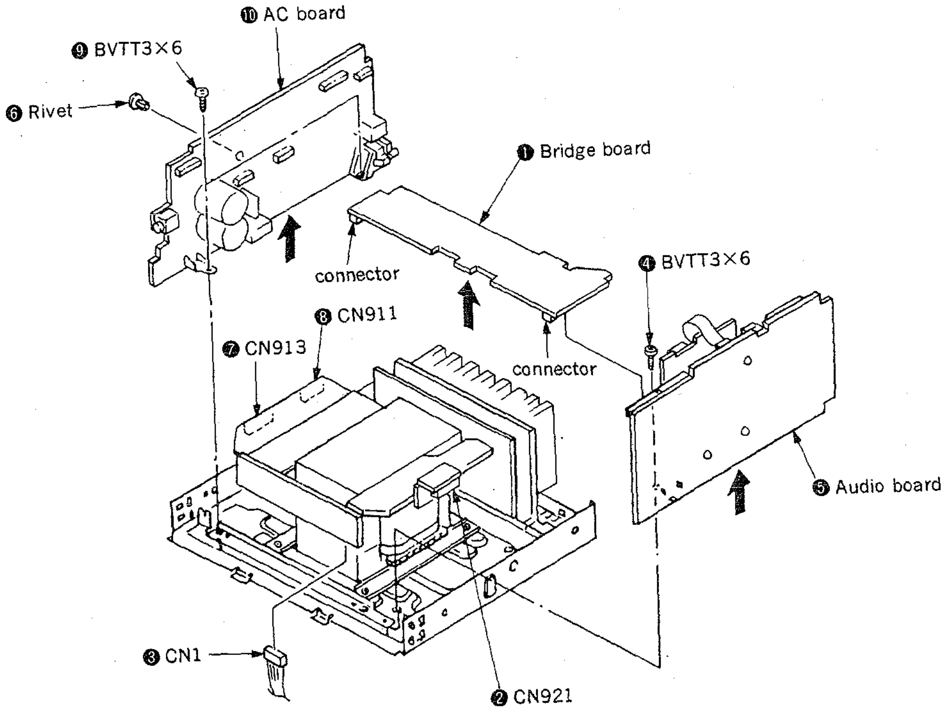
## 2-1. FRONT PANEL ASSY


❶ Screws (case +3×8 TP2)
❸ Case
❷ Screws (case +3×8 TP2)
❽ CN404
⓬ BVTP2.6×8
⓭ Panel board
❺ Claw
❼ CN405
⓬ BVTP2.6×8
❺ Claw
⓫ Volume board
❺ Claw
❾ Knob (volume) assy
❿ Nut
❻ Front panel assy
❹ BVTT3×6

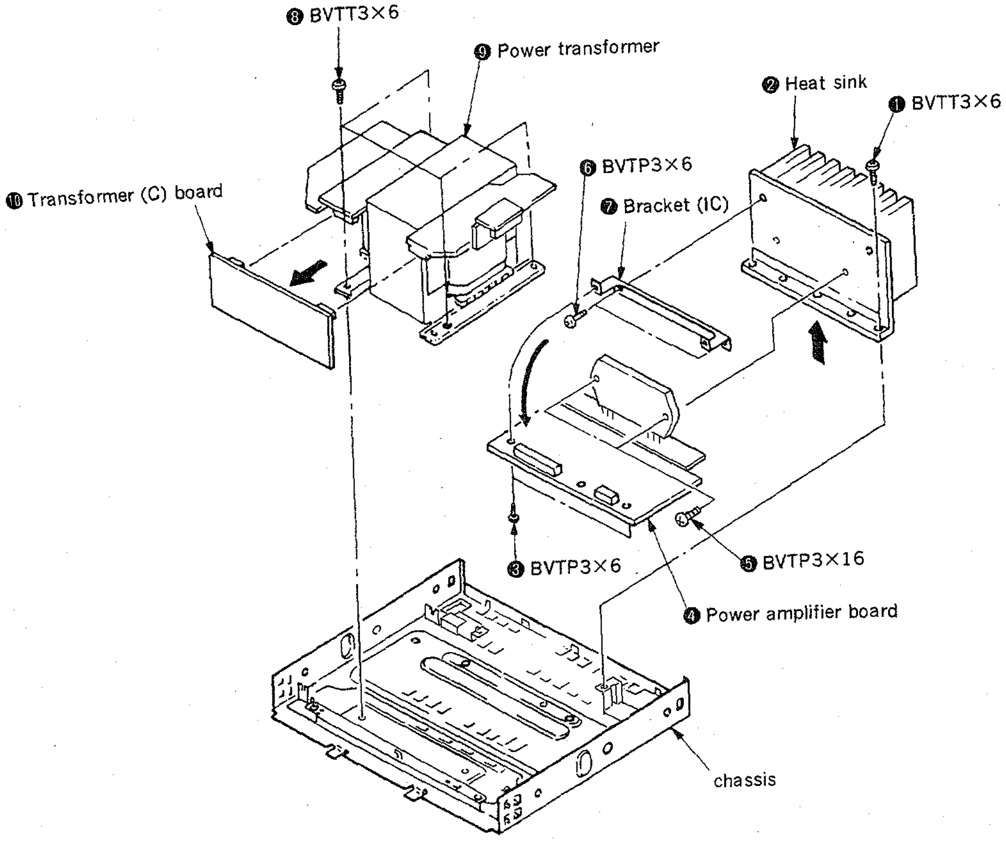
## 2-2. JACK BOARD, SPEAKER BOARD


⓬ BVTP3×10
⓬ BVTP3×10
(UK, E, AUS, EA, JE)
⓭ Speaker board
❿ Jumper plugs
(E, AUS, EA, JE)
❻ CN703
❾ BVTP3×10
(E, AUS, EA, JE)
❺ Connector (B) board
❾ BVTP3×10
❼ Claws
❷ Connector (A) board
connectors
❽ Back panel
❼ Claws
❶ CN202
❸ Spacer
❹ CN101
⓫ Jack board

## 2-3. AUDIO BOARD, AC BOARD

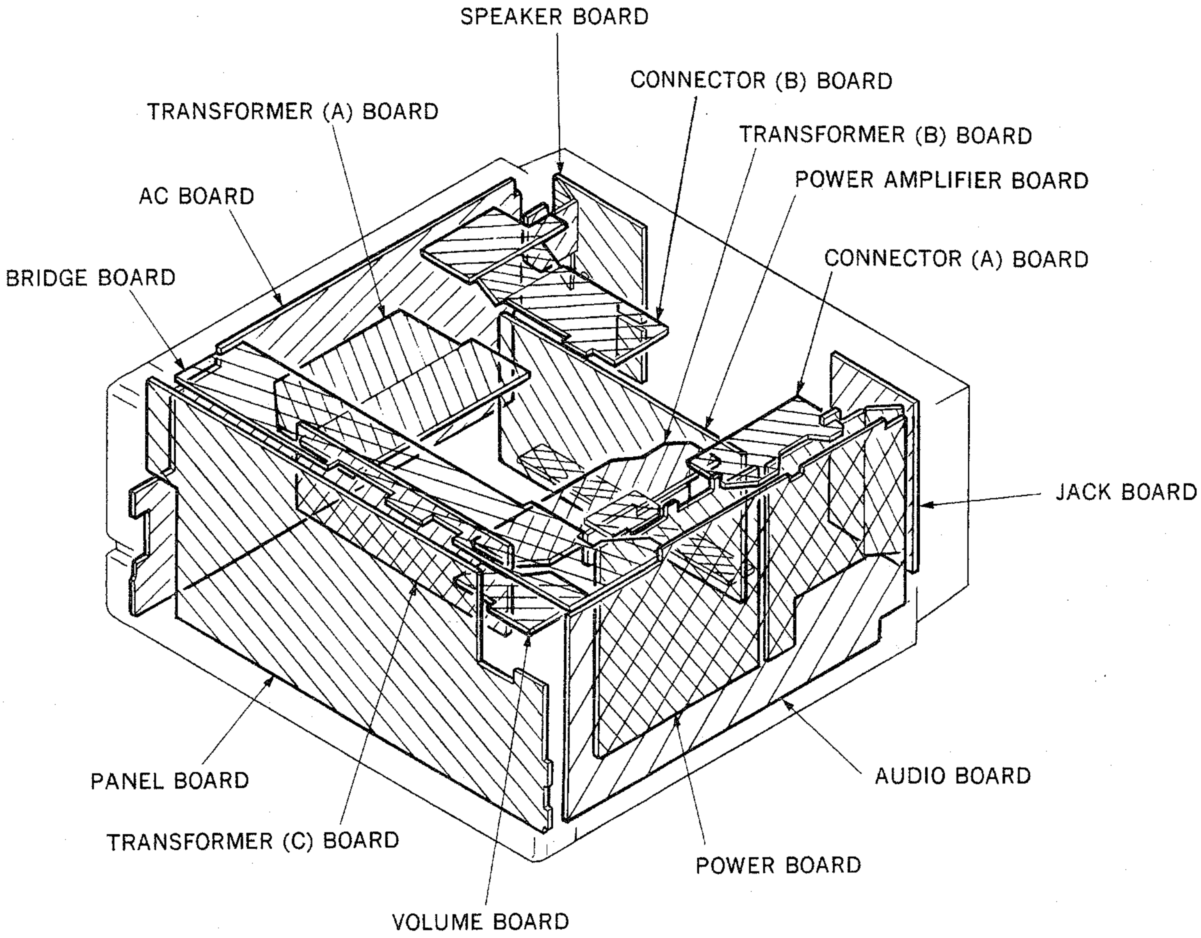

⑩ AC board
⑨ BVTT3×6
⑥ Rivet
① Bridge board
connector
④ BVTT3×6
⑧ CN911
⑦ CN913
connector
⑤ Audio board
③ CN1
② CN921

## 2-4. POWER AMPLIFIER BOARD, POWER TRANSFORMER

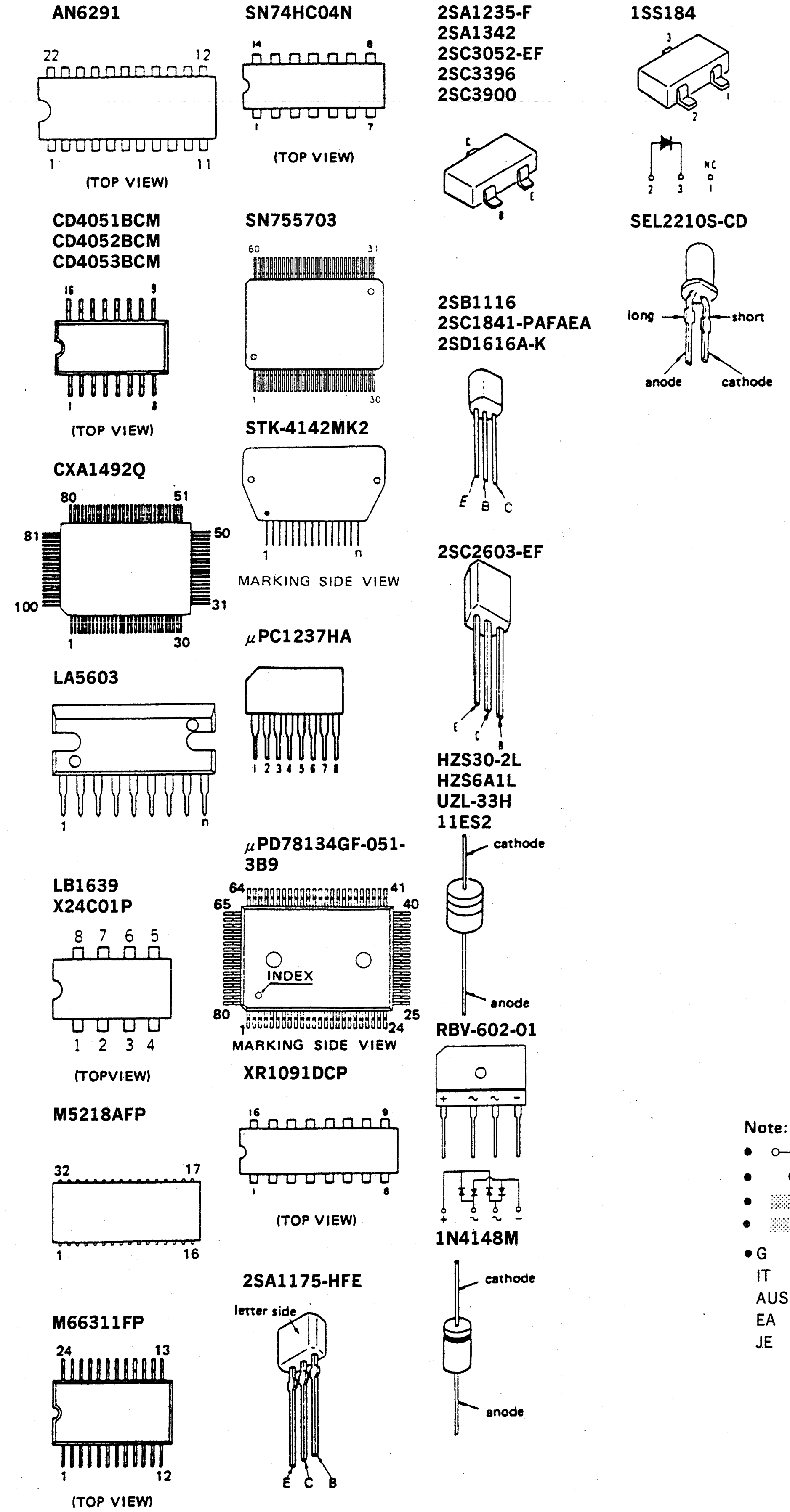

⑧ BVTT3×6
⑨ Power transformer
② Heat sink
① BVTT3×6
⑥ BVTP3×6
⑩ Transformer (C) board
⑦ Bracket (IC)
③ BVTP3×6
⑤ BVTP3×16
④ Power amplifier board
chassis

# SECTION 3
# DIAGRAMS

## 3-1. CIRCUIT BOARDS LOCATION


SPEAKER BOARD
CONNECTOR (B) BOARD
TRANSFORMER (A) BOARD
TRANSFORMER (B) BOARD
POWER AMPLIFIER BOARD
AC BOARD
CONNECTOR (A) BOARD
BRIDGE BOARD
JACK BOARD
PANEL BOARD
AUDIO BOARD
TRANSFORMER (C) BOARD
POWER BOARD
VOLUME BOARD

## 3-2. SEMICONDUCTOR LEAD LAYOUTS


AN6291
22
12
1
11
(TOP VIEW)
SN74HC04N
14
8
1
7
(TOP VIEW)
2SA1235-F
2SA1342
2SC3052-EF
2SC3396
2SC3900
1SS184
3
1
2
CD4051BCM
CD4052BCM
CD4053BCM
16
9
1
8
(TOP VIEW)
SN755703
60
31
1
30
SEL2210S-CD
long
short
anode
cathode
2SB1116
2SC1841-PAFAEA
2SD1616A-K
E B C
CXA1492Q
80
51
81
50
100
31
1
30
STK-4142MK2
1
n
MARKING SIDE VIEW
2SC2603-EF
LA5603
1
n
μPC1237HA
1 2 3 4 5 6 7 8
HZS30-2L
HZS6A1L
UZL-33H
11ES2
cathode
anode
μPD78134GF-051-3B9
64
41
65
40
INDEX
80
1
24
25
MARKING SIDE VIEW
LB1639
X24C01P
8 7 6 5
1 2 3 4
(TOPVIEW)
RBV-602-01
M5218AFP
32
17
1
16
XR1091DCP
16
9
1
8
(TOP VIEW)
1N4148M
cathode
anode
2SA1175-HFE
letter side
E C B
M66311FP
24
13
1
12
(TOP VIEW)

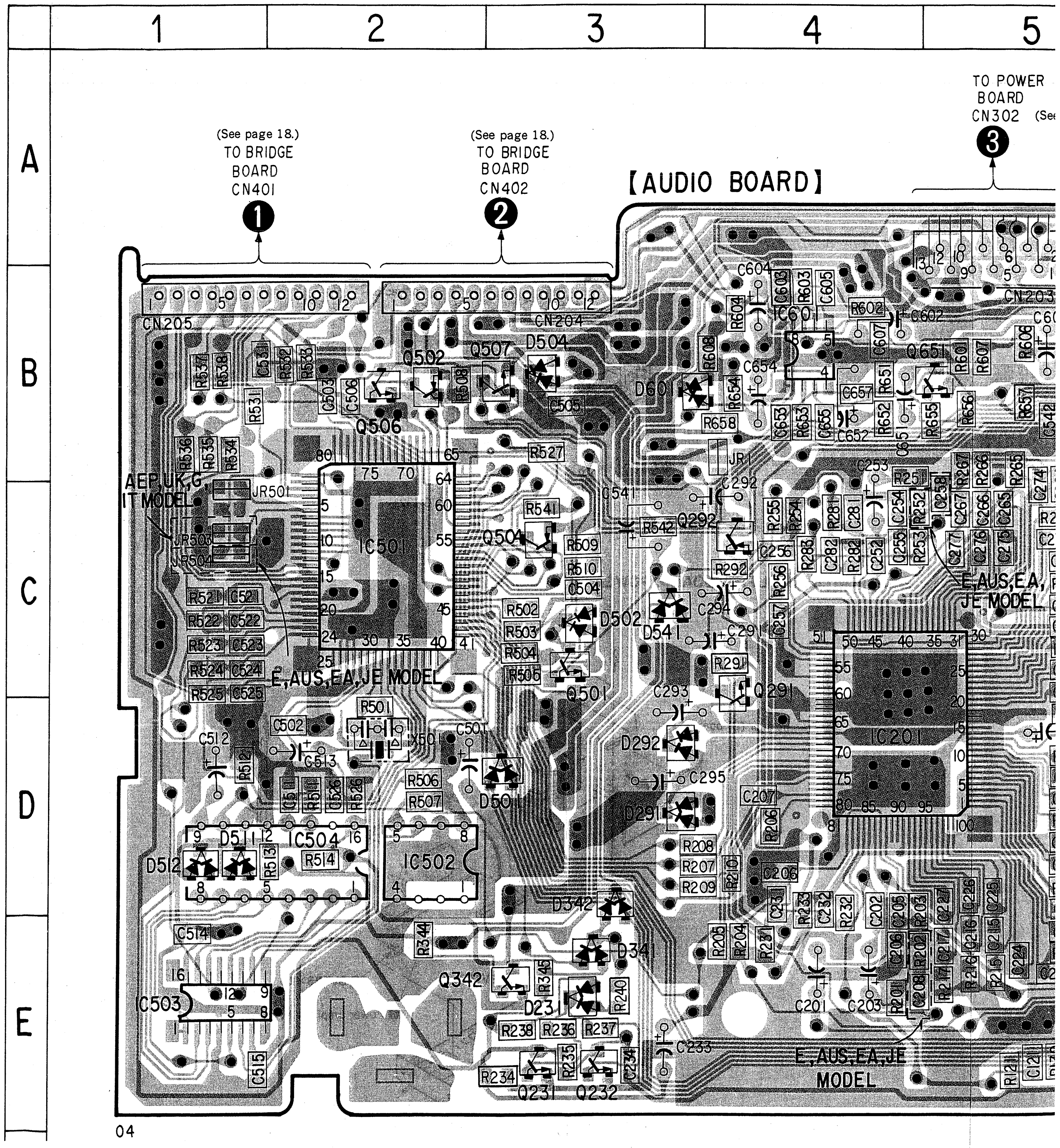
### ● Semiconductor Location

| Ref. No. | Location |
|---|---|
| D231 | E-3 |
| D291 | D-3 |
| D292 | D-3 |
| D341 | E-3 |
| D342 | D-3 |
| D501 | D-3 |
| D502 | C-3 |
| D503 | B-7 |
| D504 | B-3 |
| D511 | D-1 |
| D512 | D-1 |
| D541 | C-3 |
| D601 | B-3 |
| IC101 | B-8 |
| IC102 (※1) | C-8 |
| IC103 | E-6 |
| IC201 | D-4 |
| IC301 | D-6 |
| IC302 | D-7 |
| IC303 | D-8 |
| IC501 | C-2 |
| IC502 | D-2 |
| IC503 | E-1 |
| IC504 | D-2 |
| IC601 | B-4 |
| Q231 | E-3 |
| Q232 | E-3 |
| Q291 | C-4 |
| Q292 | C-4 |
| Q311 | D-8 |
| Q341 | D-7 |
| Q342 | E-3 |
| Q361 | D-7 |
| Q391 | D-7 |
| Q501 | C-3 |
| Q502 | B-2 |
| Q504 | C-3 |
| Q506 | B-2 |
| Q507 | B-3 |
| Q601 | B-5 |
| Q651 | B-5 |

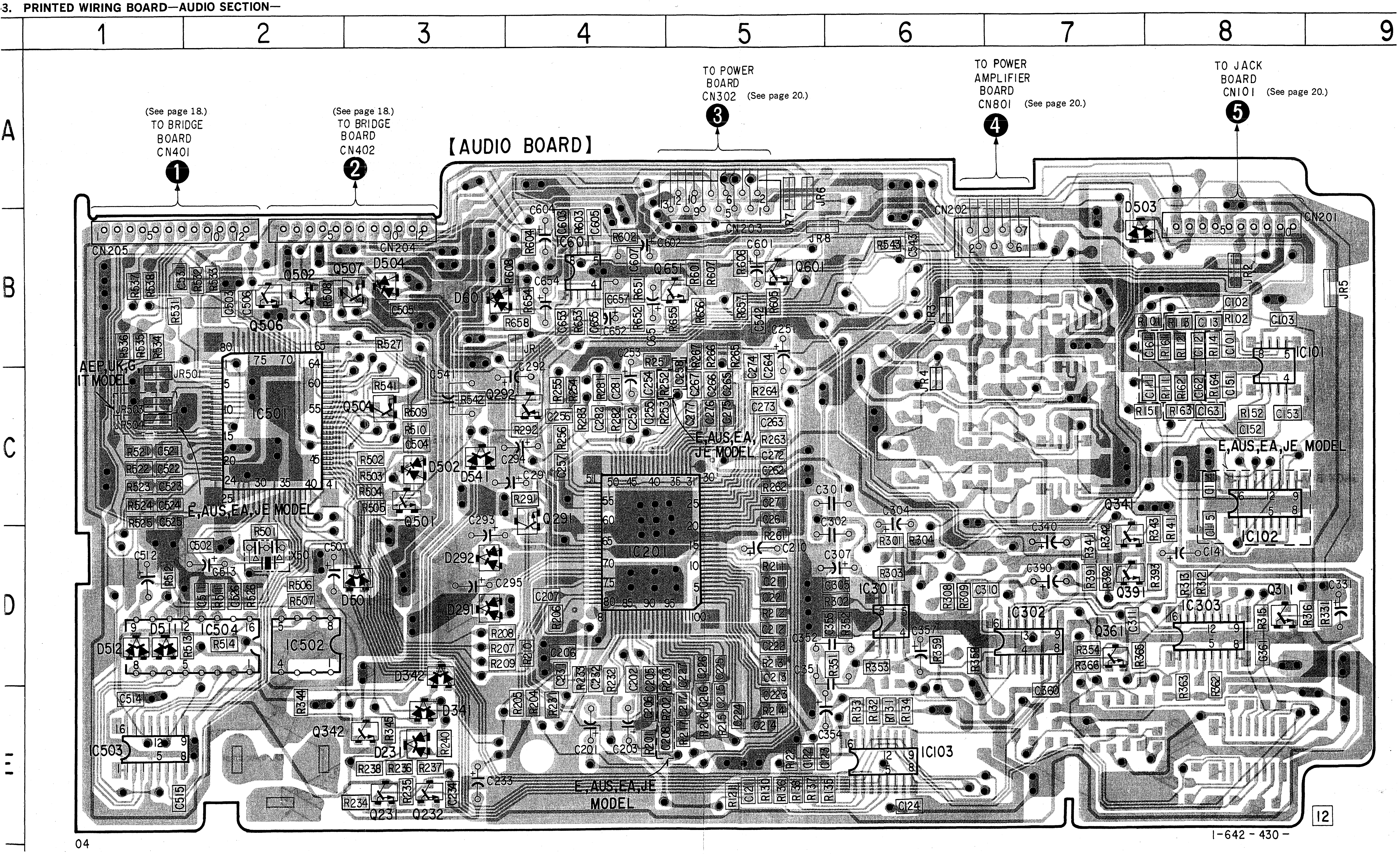
※1 : Use on E, Australian, Saudi Arabia and Tourist model.

Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.
- G : Germany model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  JE : Tourist model

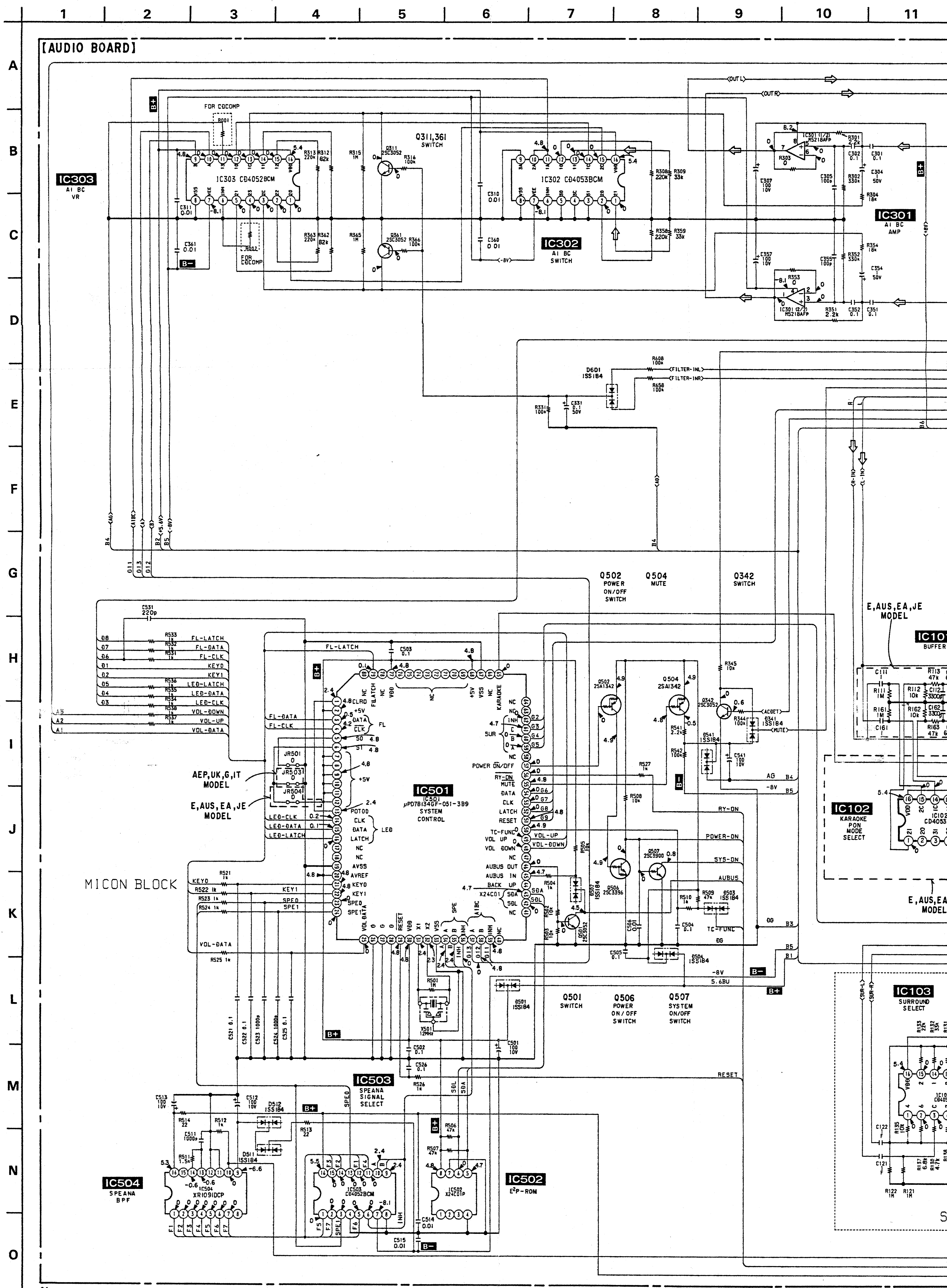
## 3-3. PRINTED WIRING BOARD—AUDIO SECTION—


1
2
3
4
5
A
B
C
D
E
(See page 18.)
TO BRIDGE
BOARD
CN401
❶
(See page 18.)
TO BRIDGE
BOARD
CN402
❷
TO POWER
BOARD
CN302
❸
【AUDIO BOARD】
CN205
CN204
CN203
AEP,UK,G,
IT MODEL
E,AUS,EA,JE MODEL
E,AUS,EA,
JE MODEL
E,AUS,EA,JE
MODEL
IC501
IC502
IC503
IC504
IC201
IC601
Q502
Q507
Q506
Q504
Q501
Q292
Q291
Q342
Q231
Q232
Q651
D504
D601
D502
D541
D501
D292
D291
D342
D341
D231
D511
D512
04

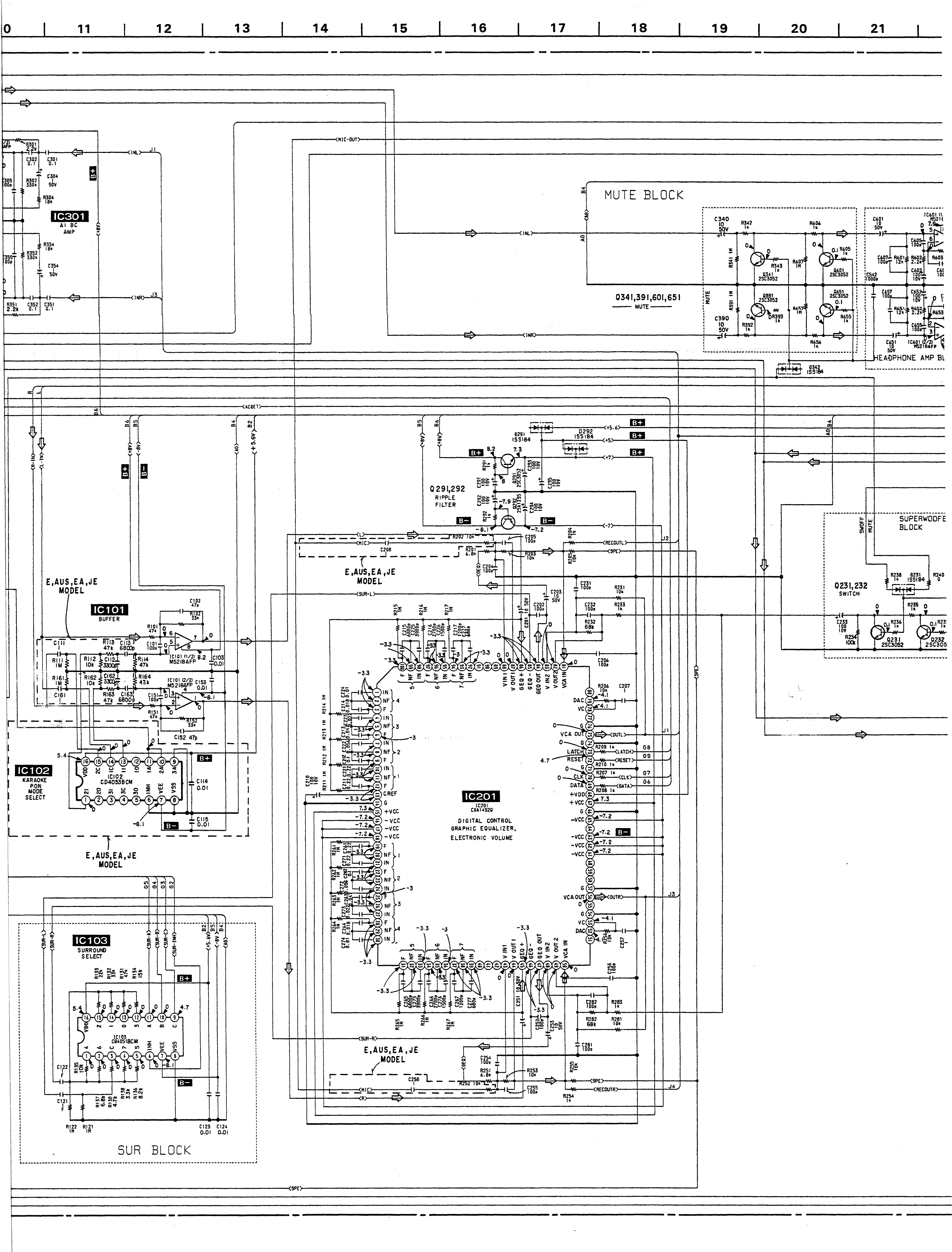
## 3. PRINTED WIRING BOARD—AUDIO SECTION—

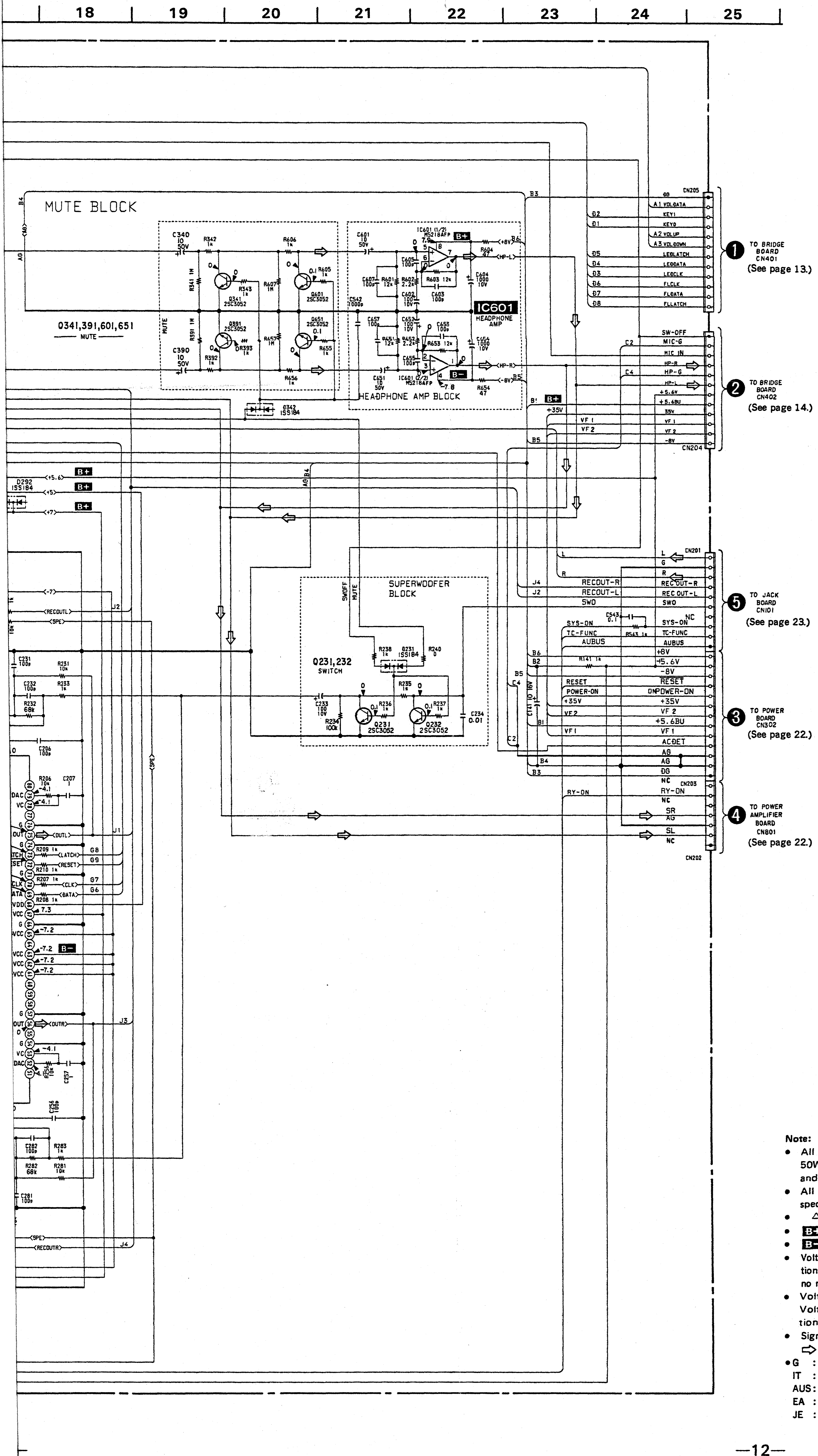

1
2
3
4
5
6
7
8
9
A
B
C
D
E
(See page 18.) TO BRIDGE BOARD CN401 ❶
(See page 18.) TO BRIDGE BOARD CN402 ❷
TO POWER BOARD CN302 (See page 20.) ❸
TO POWER AMPLIFIER BOARD CN801 (See page 20.) ❹
TO JACK BOARD CN101 (See page 20.) ❺
【AUDIO BOARD】
CN205
CN204
CN203
CN202
CN201
IC501
IC201
IC101
IC102
IC103
IC301
IC302
IC303
IC502
IC503
IC504
AEP,UK,G, IT MODEL
E,AUS,EA,JE MODEL
E,AUS,EA, JE MODEL
E,AUS,EA,JE MODEL
E,AUS,EA,JE MODEL
12
1-642-430-
04

## 3-4. SCHEMATIC DIAGRAM—AUDIO SECTION— • Refer to page 29 for IC Block Diagrams.



1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
[AUDIO BOARD]
IC303
AI BC VR
IC303 CD4052BCM
FOR COCOMP
R001
R002
FOR COCOMP
B+
B−
Q311,361 SWITCH
Q311 2SC3052
Q361 2SC3052
IC302
AI BC SWITCH
IC302 CD4053BCM
IC301
AI BC AMP
IC301 (1/2) M5218AFP
IC301 (2/2) M5218AFP
OUT L
OUT R
D601 1SS184
FILTER-INL
FILTER-INR
Q502 POWER ON/OFF SWITCH
Q504 MUTE
Q342 SWITCH
E,AUS,EA,JE MODEL
IC101 BUFFER
IC102 KARAOKE PON MODE SELECT
IC103 SURROUND SELECT
MICON BLOCK
AEP,UK,G,IT MODEL
E,AUS,EA,JE MODEL
JR501
JR503
JR504
IC501
IC501 μPD78134GF-051-3B9 SYSTEM CONTROL
FL-LATCH
FL-DATA
FL-CLK
KEY0
KEY1
LED-LATCH
LED-DATA
LED-CLK
VOL-DOWN
VOL-UP
VOL-DATA
SPE0
SPE1
POWER ON/OFF
RY-ON
MUTE
TC-FUNC
AUBUS
RESET
SYS-ON
POWER-ON
Q501 SWITCH
Q506 POWER ON/OFF SWITCH
Q507 SYSTEM ON/OFF SWITCH
X501 12MHz
IC503 SPEANA SIGNAL SELECT
IC503 CD4052BCM
IC504 SPEANA BPF
IC504 XR1091DCP
IC502 E²P-ROM
IC502 X24C01P
D511 1SS184
D512 1SS184
04


0
11
12
13
14
15
16
17
18
19
20
21
IC301
AI BC AMP
B+
<INL>
<INR>
J1
J3
<MIC-OUT>
MUTE BLOCK
Q341,391,601,651
MUTE
Q341 2SC3052
Q391 2SC3052
Q601 2SC3052
Q651 2SC3052
Q342 1SS184
HEADPHONE AMP BL
IC601 (2/2) M5218AFP
<ACGET>
D291 1SS184
D292 1SS184
<+5.6>
<+5>
<+7>
<-7>
Q291,292
RIPPLE FILTER
Q291 2SC3052
Q292 2SA1235
B-
SUPERWOOFER BLOCK
SWOFF
MUTE
Q231,232
SWITCH
Q231 2SC3052
Q232 2SC3052
<RECOUTL>
<SPE>
J2
<L>
<MIC>
C208
E,AUS,EA,JE MODEL
<SUR-L>
IC101
BUFFER
IC101 (1/2) M5218AFP
IC101 (2/2) M5218AFP
IC102
KARAOKE PON MODE SELECT
IC102 CD4053BCM
IC201
IC201 CXA1492Q
DIGITAL CONTROL GRAPHIC EQUALIZER, ELECTRONIC VOLUME
VIN1
V OUT1
GEO +
GEO -
GEO OUT
V IN2
V OUT2
VCA IN
DAC
VCA OUT
<DUTL>
LATCH
RESET
CLK
DATA
<LATCH>
<RESET>
<CLK>
<DATA>
G8
G9
G7
G6
+VDD
+VCC
-VCC
CREF
<DUTR>
J3
<SUR-R>
<RECOUTR>
J4
IC103
SURROUND SELECT
IC103 CD4051BCM
SUR BLOCK
<SUR-L>
<SUR-R>
<SUR-A>
<SUR-B>
<SUR-C>
<SUR-INH>
G5
G4
G3
G2
<SPE>

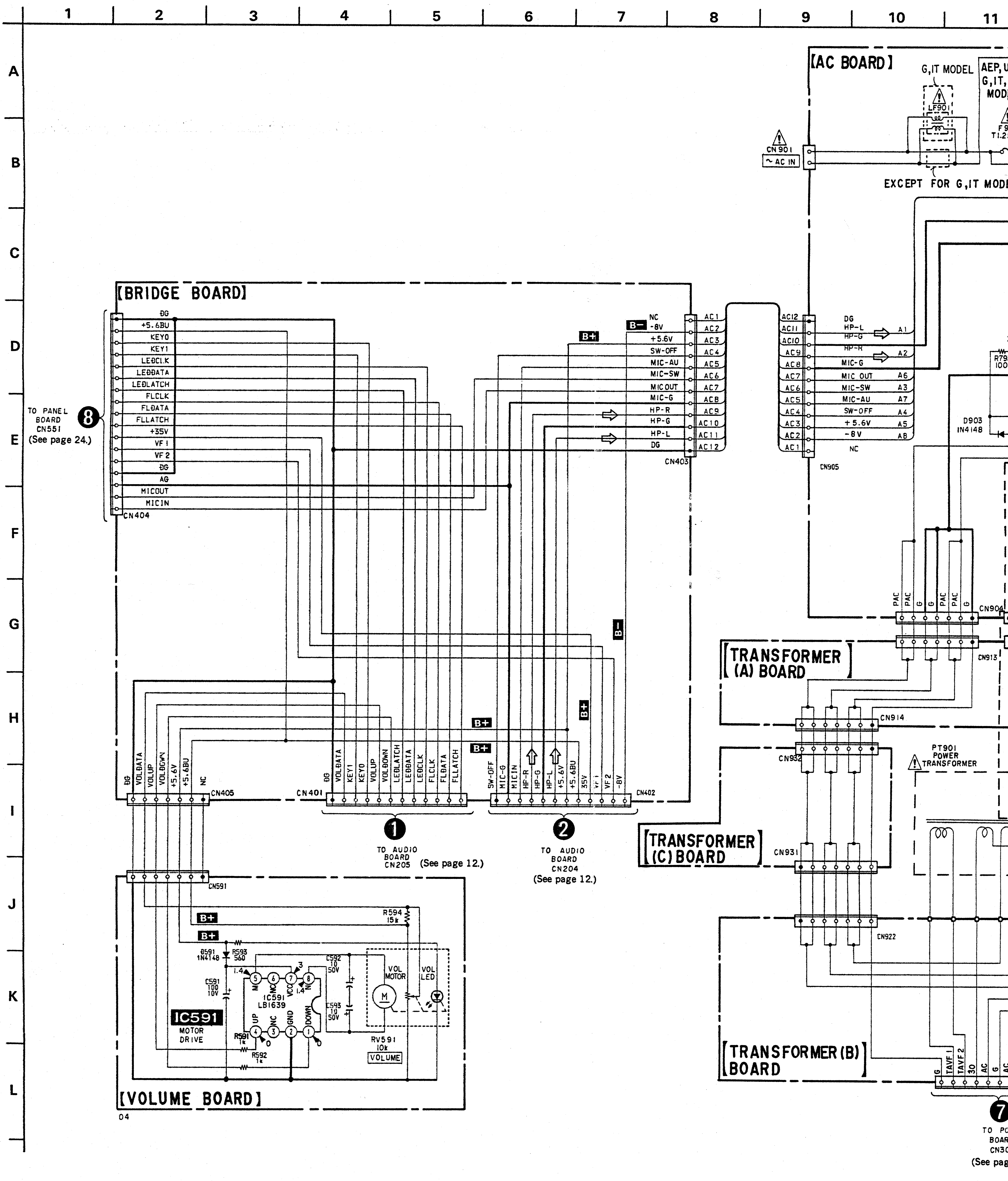

18
19
20
21
22
23
24
25
MUTE BLOCK
Q341,391,601,651
MUTE
C340 10 50V
C390 10 50V
Q341 2SC3052
Q391 2SC3052
Q601 2SC3052
Q651 2SC3052
D342 1SS184
IC601 (1/2) M5218AFP
IC601 (2/2) M5218AFP
IC601
HEADPHONE AMP
HEADPHONE AMP BLOCK
SUPERWOOFER BLOCK
Q231,232
SWITCH
Q231 2SC3052
Q232 2SC3052
D231 1SS184
D292 1SS184
CN205
CN204
CN201
CN203
CN202
TO BRIDGE BOARD CN401
(See page 13.)
TO BRIDGE BOARD CN402
(See page 14.)
TO JACK BOARD CN101
(See page 23.)
TO POWER BOARD CN302
(See page 22.)
TO POWER AMPLIFIER BOARD CN801
(See page 22.)
SW-OFF
MIC-G
MIC IN
HP-R
HP-G
HP-L
+5.6V
+5.6BU
35V
VF 1
VF 2
-8V
RECOUT-R
RECOUT-L
SWO
SYS-ON
TC-FUNC
AUBUS
+8V
+5.6V
RESET
POWER-ON
+35V
+5.6BU
ACDET
AG
DG
NC
RY-ON
SR
SL
LEDLATCH
LEDDATA
LEDCLK
FLCLK
FLDATA
FLLATCH
KEY1
KEY0
VOLDATA
VOLUP
VOLDOWN

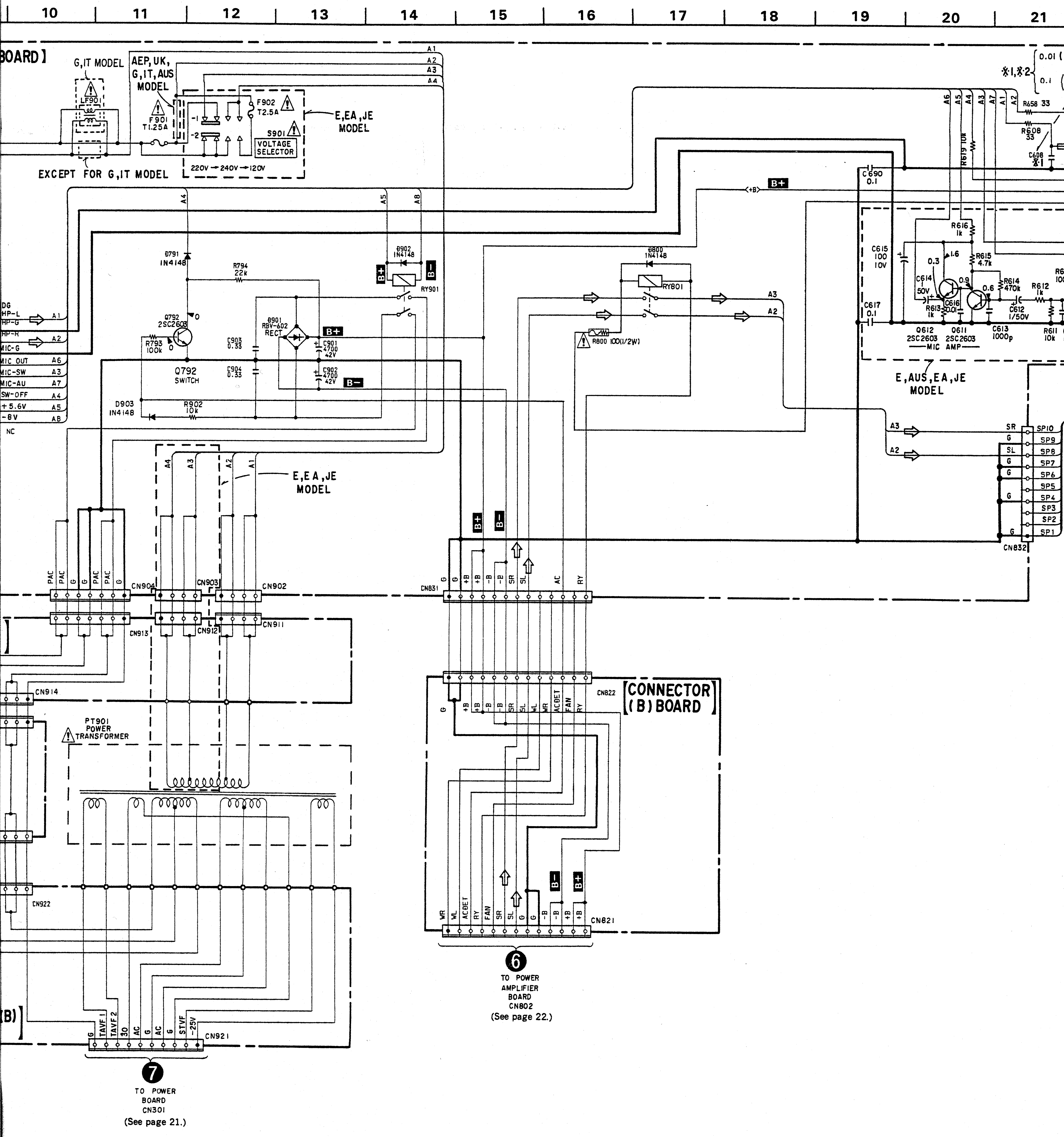
Note:

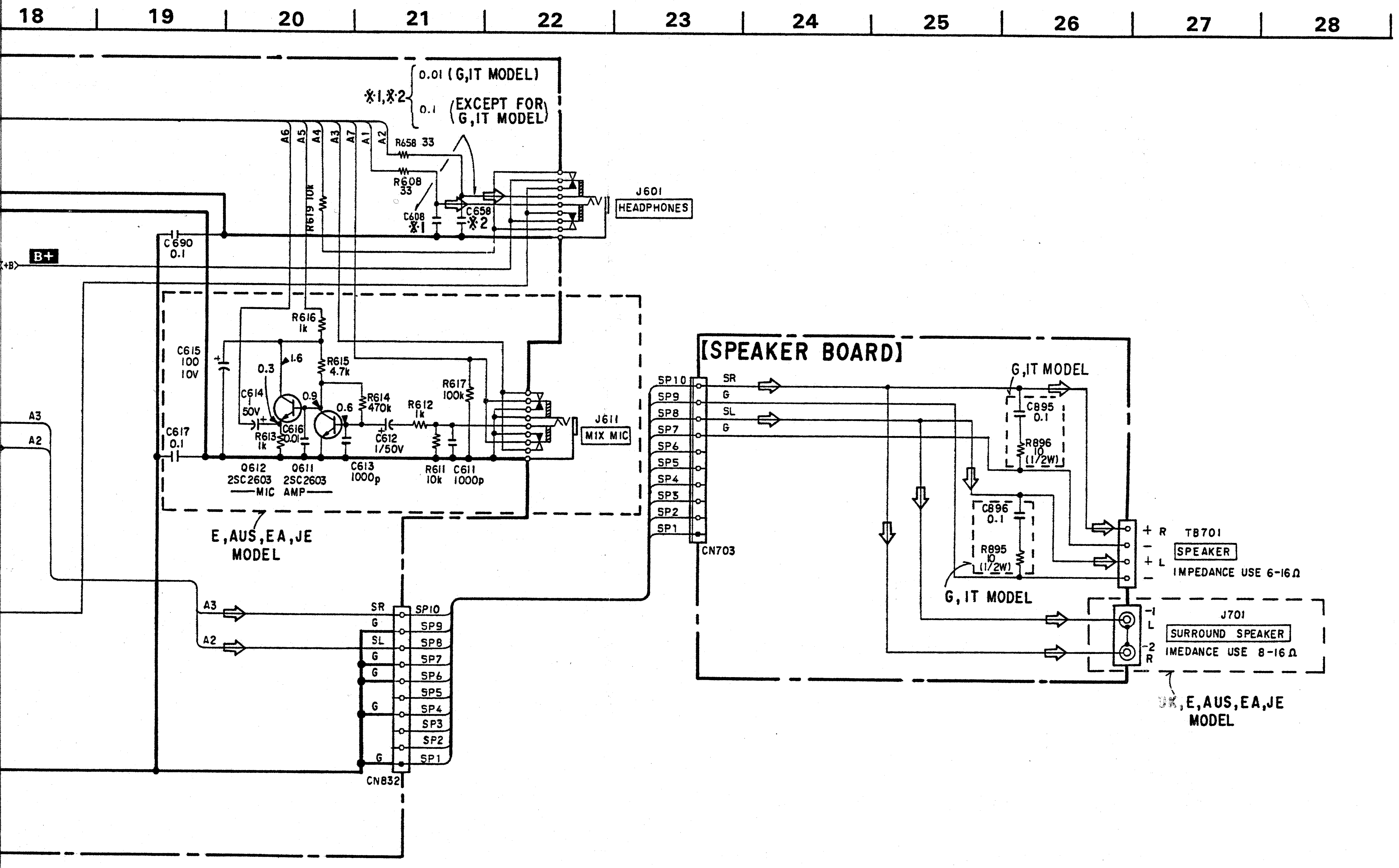
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line
- B– : B– Line
- Voltage is dc with respect to ground under no-signal conditions.
  no mark: SYSTEM POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : TUNER

- G : Germany model
- IT : Italian model
- AUS: Australian model
- EA : Saudi Arabia model
- JE : Tourist model

## 3-5. SCHEMATIC DIAGRAM—AC/VOLUME SECTION— • Refer to page 29 for IC Block Diagrams.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
[AC BOARD]
G,IT MODEL
AEP,U
G,IT,
MOD
LF901
CN901
~ AC IN
EXCEPT FOR G,IT MODE
[BRIDGE BOARD]
DG
+5.6BU
KEY0
KEY1
LEDCLK
LEDDATA
LEDLATCH
FLCLK
FLDATA
FLLATCH
+35V
VF1
VF2
DG
AG
MICOUT
MICIN
CN404
TO PANEL BOARD CN551 (See page 24.)
8
NC
-8V
+5.6V
SW-OFF
MIC-AU
MIC-SW
MIC OUT
MIC-G
HP-R
HP-G
HP-L
DG
B−
B+
AC1
AC2
AC3
AC4
AC5
AC6
AC7
AC8
AC9
AC10
AC11
AC12
CN403
CN905
A1
A2
A6
A3
A7
A4
A5
A8
R79
100
D903
1N4148
PAC
G
CN904
CN913
[TRANSFORMER (A) BOARD]
CN914
CN932
PT901 POWER TRANSFORMER
[TRANSFORMER (C) BOARD]
CN931
CN922
[TRANSFORMER (B) BOARD]
TAVF1
TAVF2
30
AC
7
TO PO BOAR CN30 (See pag
VOLDATA
VOLUP
VOLDOWN
+5.6V
+5.6BU
NC
CN405
CN401
KEY1
KEY0
LEDLATCH
LEDDATA
LEDCLK
FLCLK
FLDATA
FLLATCH
SW-OFF
MIC-G
MICIN
35V
VF1
VF2
-8V
CN402
1
TO AUDIO BOARD CN205 (See page 12.)
2
TO AUDIO BOARD CN204 (See page 12.)
CN591
R594 15k
D591 1N4148
R593 560
C591 100 10V
C592 10 50V
C593 10 50V
IC591 LB1639
IC591
MOTOR DRIVE
MI
NC
VCC
IN
UP
GND
DOWN
1.4
3
0
R591 1k
R592 1k
VOL MOTOR
VOL LED
M
RV591 10k VOLUME
[VOLUME BOARD]
04


10
11
12
13
14
15
16
17
18
19
20
21
BOARD]
G,IT MODEL
LF901
EXCEPT FOR G,IT MODEL
AEP,UK,
G,IT,AUS
MODEL
F901
T1.25A
F902
T2.5A
S901
VOLTAGE SELECTOR
220V→240V→120V
E,EA,JE
MODEL
A1
A2
A3
A4
A5
A8
D791
1N4148
R794
22k
Q792
2SC2603
R793
100k
Q792
SWITCH
D903
1N4148
R902
10k
C903
0.33
C904
0.33
D901
RBV-602
RECT
C901
4700
42V
C902
4700
42V
B+
B−
D902
1N4148
RY901
D800
1N4148
RY801
R800 100(1/2W)
DG
HP-L
HP-G
HP-R
MIC-G
MIC OUT
MIC-SW
MIC-AU
SW-OFF
+5.6V
-8V
NC
A6
A7
E,EA,JE
MODEL
PAC
G
CN904
CN903
CN902
CN913
CN912
CN911
CN914
PT901
POWER
TRANSFORMER
CN922
G
TAVF1
TAVF2
30
AC
STVF
-25V
CN921
7
TO POWER
BOARD
CN301
(See page 21.)
CN831
+B
-B
SR
SL
AC
RY
CN822
[CONNECTOR
(B) BOARD]
WL
ACDET
FAN
WR
CN821
6
TO POWER
AMPLIFIER
BOARD
CN802
(See page 22.)
C690
0.1
(+B)
C615
100
10V
C617
0.1
C614
50V
R613
1k
C616
0.01
Q612
2SC2603
Q611
2SC2603
MIC AMP
R616
1k
R615
4.7k
R614
470k
R612
1k
C612
1/50V
C613
1000p
R611
10k
R619 10k
R658 33
R608
33
C608
※1
※1,※2
0.01
0.1
1.6
0.3
0.9
0.6
0
E,AUS,EA,JE
MODEL
SR
SL
SP10
SP9
SP8
SP7
SP6
SP5
SP4
SP3
SP2
SP1
CN832


18
19
20
21
22
23
24
25
26
27
28
※1,※2
0.01 (G,IT MODEL)
0.1 (EXCEPT FOR G,IT MODEL)
A6
A5
A4
A3
A7
A1
A2
R658 33
R608 33
C608 ※1
C658 ※2
J601
HEADPHONES
C690 0.1
B+
(+B)
R619 10k
R616 1k
C615 100 10V
0.3
1.6
R615 4.7k
C614 1 50V
0.9
R614 470k
0.6
R612 1k
R617 100k
J611
MIX MIC
R613 1k
C616 0.01
C612 1/50V
C617 0.1
Q612 2SC2603
Q611 2SC2603
MIC AMP
C613 1000p
R611 10k
C611 1000p
E,AUS,EA,JE MODEL
A3
A2
SR
G
SL
G
G
G
G
SP10
SP9
SP8
SP7
SP6
SP5
SP4
SP3
SP2
SP1
CN832
[SPEAKER BOARD]
CN703
G,IT MODEL
C895 0.1
R896 10 (1/2W)
C896 0.1
R895 10 (1/2W)
G, IT MODEL
+ R
− 
+ L
−
TB701
SPEAKER
IMPEDANCE USE 6-16Ω
-1 L
-2 R
J701
SURROUND SPEAKER
IMEDANCE USE 8-16Ω
UK,E,AUS,EA,JE MODEL

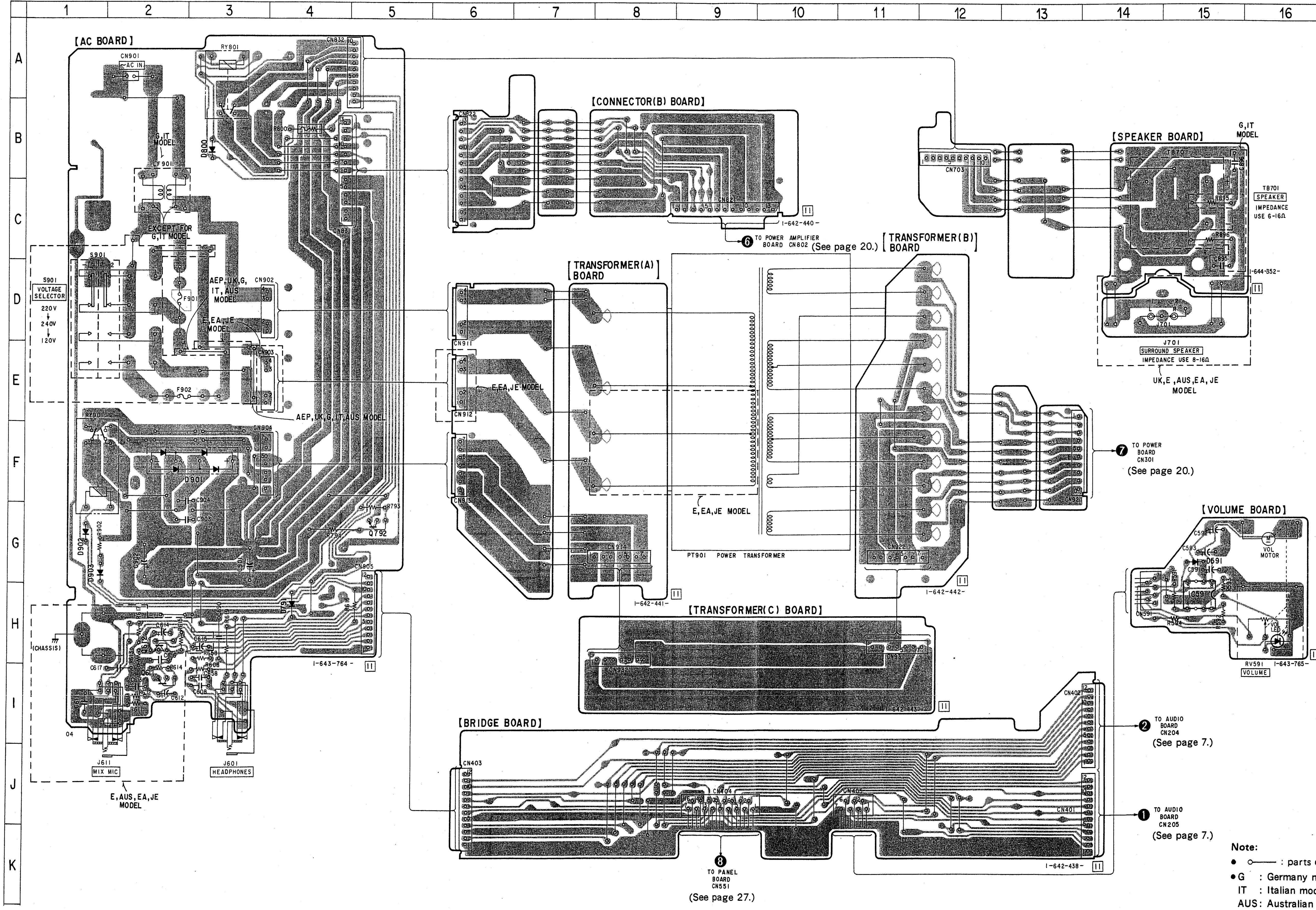
**Note:**

- All capacitors are in $\mu$F unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- ⏛ : fusible resistor.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- **B+** : B+ Line
- **B−** : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
  no mark: SYSTEM POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : TUNER
- G : Germany model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  JE : Tourist model

## 3-6. PRINTED WIRING BOARDS—AC/VOLUME SECTION— • Refer to page 6 for Semiconductor Lead Layouts.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K
[AC BOARD]
CN901
AC IN
RY801
CN832
D800
R800
G,IT MODEL
LF901
EXCEPT FOR G,IT MODEL
S901
VOLTAGE SELECTOR
220V
240V
120V
AEP,UK,G, IT,AUS MODEL
F901
E,EA,JE MODEL
CN902
CN903
F902
AEP,UK,G,IT,AUS MODEL
RY901
CN904
D901
C904
C903
D902
R902
D903
R793
R794
Q792
CN905
D791
(CHASSIS)
C617
C614
C612
C608
R608
C615
C616
04
J611
MIX MIC
J601
HEADPHONES
E,AUS,EA,JE MODEL
1-643-764 -
[CONNECTOR(B) BOARD]
CN822
CN821
1-642-440 -
⑥ TO POWER AMPLIFIER BOARD CN802 (See page 20.)
[TRANSFORMER(A) BOARD]
CN911
CN912
CN913
CN914
E,EA,JE MODEL
1-642-441 -
PT901 POWER TRANSFORMER
[TRANSFORMER(B) BOARD]
CN922
CN923
1-642-442 -
[TRANSFORMER(C) BOARD]
CN932
CN933
1-642-443 -
[SPEAKER BOARD]
G,IT MODEL
CN703
TB701
SPEAKER
IMPEDANCE USE 6-16Ω
C896
R895
R896
C895
1-644-352 -
J701
SURROUND SPEAKER
IMPEDANCE USE 8-16Ω
UK,E,AUS,EA,JE MODEL
⑦ TO POWER BOARD CN301 (See page 20.)
[VOLUME BOARD]
C592
C593
D591
C591
IC591
CN591
R594
VOL MOTOR
VOL LED
RV591 1-643-765 -
VOLUME
[BRIDGE BOARD]
CN402
CN403
CN404
CN405
CN401
1-642-438 -
② TO AUDIO BOARD CN204 (See page 7.)
① TO AUDIO BOARD CN205 (See page 7.)
⑧ TO PANEL BOARD CN551 (See page 27.)

### • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D591 | G-15 |
| D791 | H-4 |
| D800 | B-3 |
| D901 | F-3 |
| D902 | G-1 |
| D903 | G-1 |
| IC591 | H-15 |
| Q611 (※1) | I-2 |
| Q612 (※1) | H-2 |
| Q792 | G-5 |

※ 1 : Use on E, Australian, Saudi Arabia and Tourist model.

Note:

- ○— : parts extracted from the component side.

• G : Germany model
IT : Italian model
AUS : Australian model
EA : Saudi Arabia model
JE : Tourist model

## • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D801 | C-4 |
| D851 | C-4 |
| D911 | D-10 |
| D912 | C-10 |
| D913 | D-10 |
| D914 | C-10 |
| D931 | B-8 |
| D932 | B-8 |
| D941 | B-7 |
| D942 | C-8 |
| D943 | D-9 |
| D944 | B-8 |
| D951 | B-7 |
| D952 | C-7 |
| D953 | D-7 |
| D961 | B-10 |
| D962 | B-10 |
| IC701 | B-4 |
| IC801 | E-3 |
| IC901 | C-9 |
| IC902 | B-7 |
| Q701 | B-4 |
| Q781 | A-4 |
| Q801 | D-4 |
| Q851 | D-4 |
| Q921 | C-9 |
| Q941 | C-8 |
| Q942 | D-8 |
| Q943 | D-8 |
| Q951 | C-7 |
| Q961 | B-10 |

**Note:**

- ○—— : parts extracted from the component side.
- G : Germany model

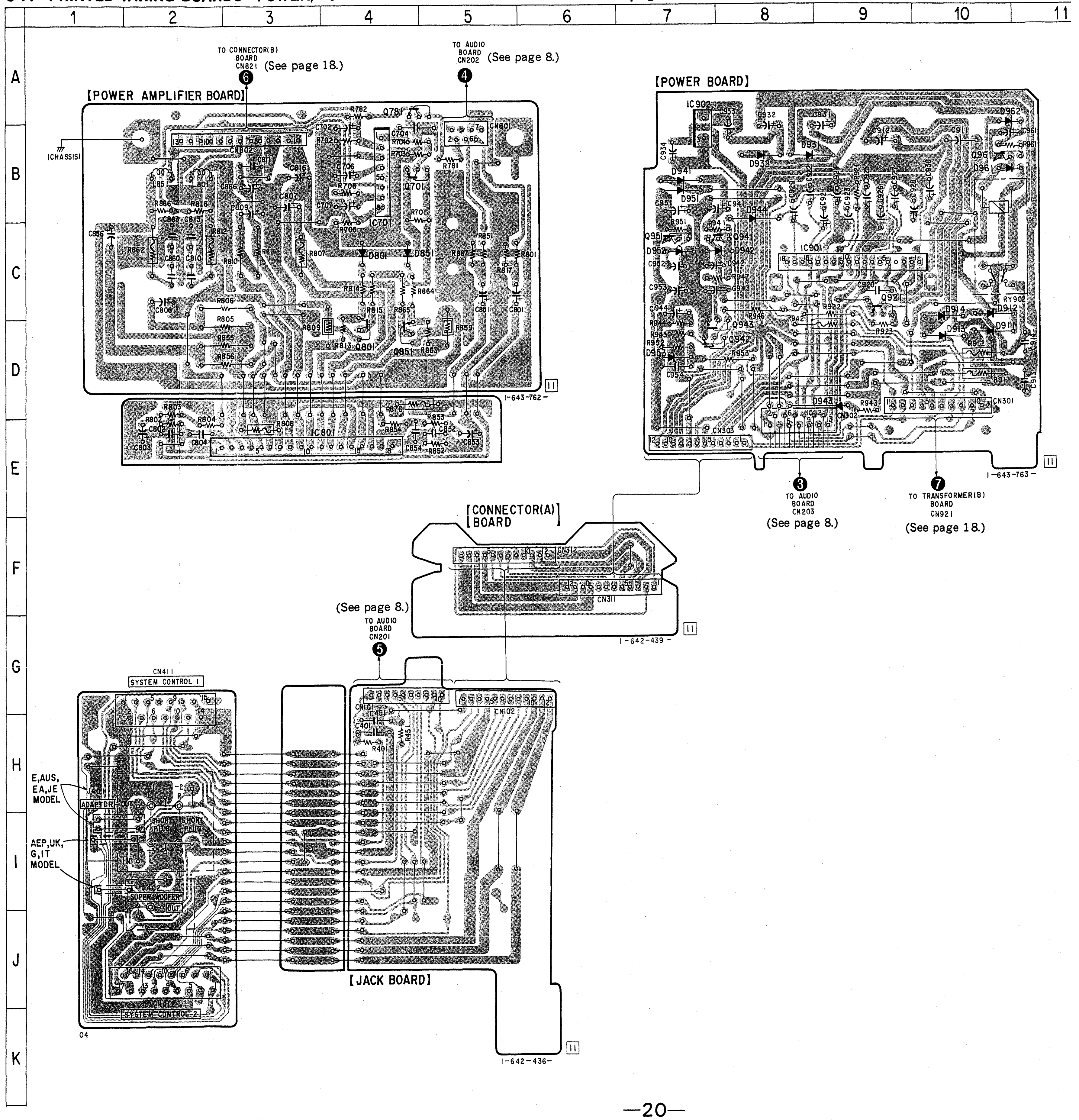
IT : Italian model

AUS : Australian model

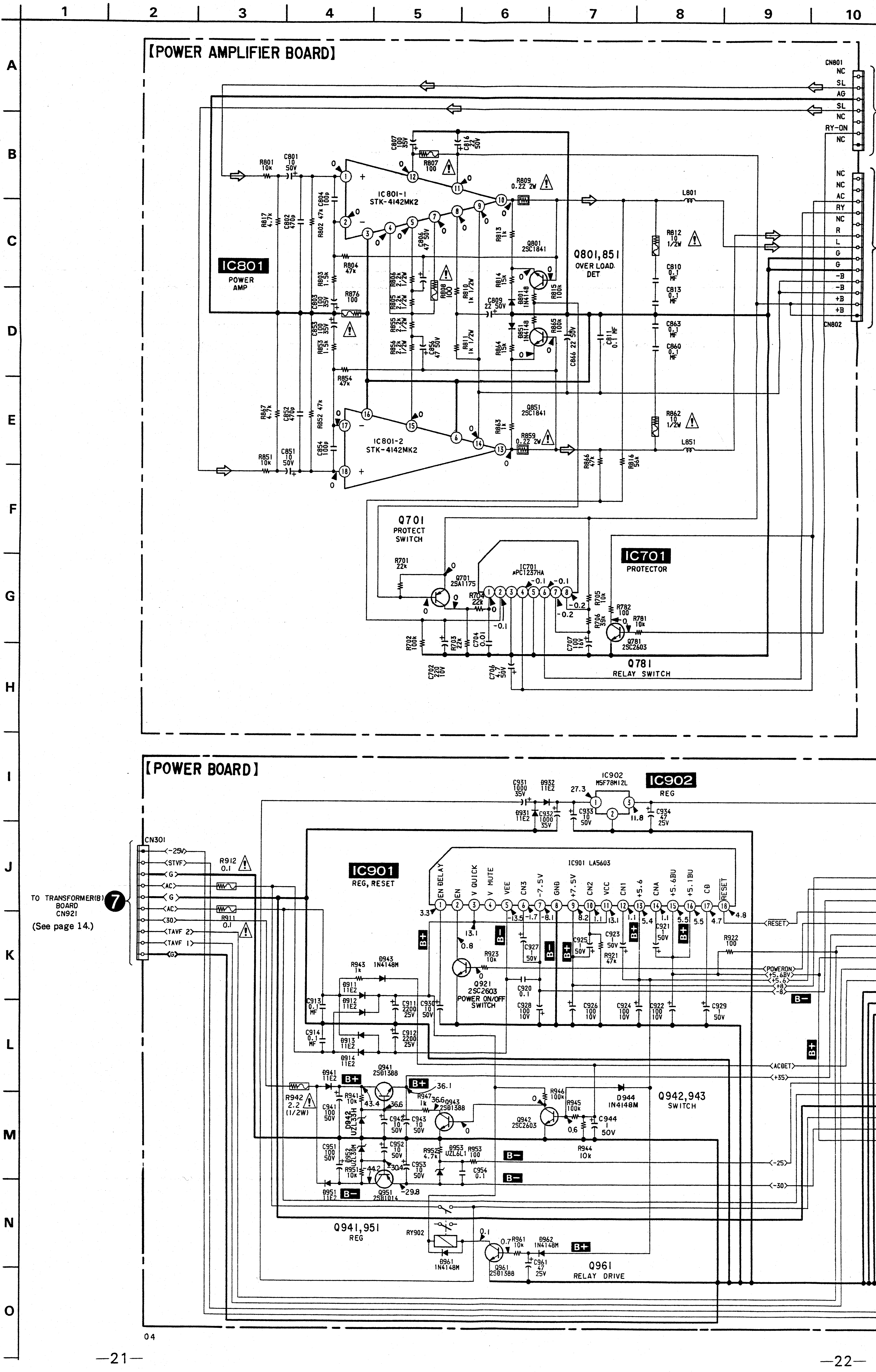
EA : Saudi Arabia model

JE : Tourist model

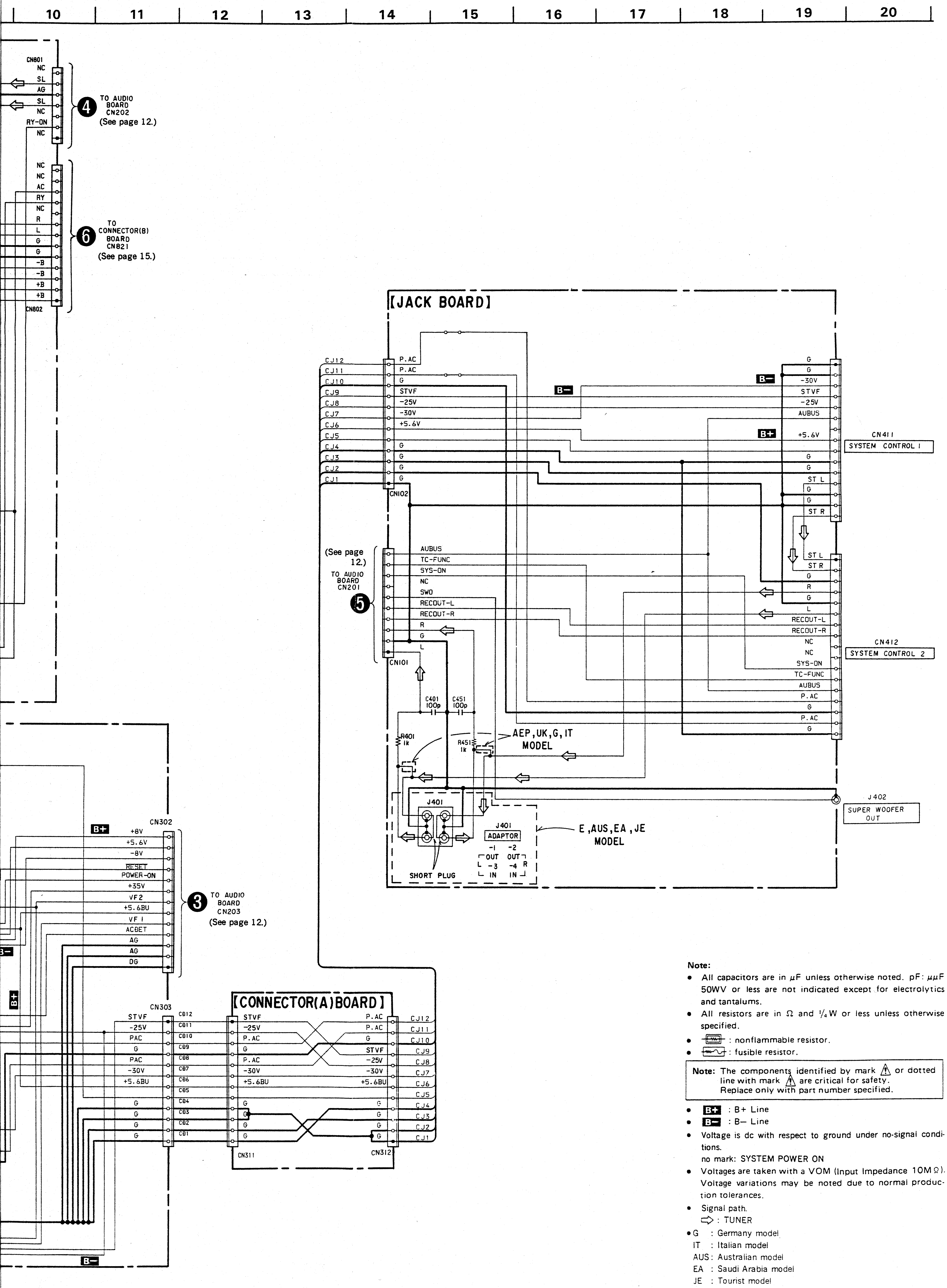
## 3-7. PRINTED WIRING BOARDS—POWER/POWER AMPLIFIER SECTION— • Refer to page 6 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
TO CONNECTOR(B) BOARD CN821 (See page 18.)
⑥
TO AUDIO BOARD CN202 (See page 8.)
④
[POWER AMPLIFIER BOARD]
(CHASSIS)
CN802
CN801
Q781
R782
C702
R702
C704
R704
R703
R781
C706
R706
Q701
C707
IC701
R705
R701
D801
D851
R867
R851
R801
R817
C801
C851
C856
R862
R886
R816
C863
C813
R812
R810
R811
R807
C860
C810
C866
C809
C807
C816
L85
L80
R814
R864
R865
R815
R806
R805
C806
R809
R855
R856
R813
Q801
Q851
R863
R859
1-643-762
R803
R802
C802
C803
R804
C804
R808
C80
R876
R853
R854
C854
R852
C853
C852
[POWER BOARD]
IC902
C933
C932
C931
D931
D932
C912
D962
C961
C934
D941
D951
C951
C941
D944
R951
R941
Q951
Q941
D952
D942
C952
Q942
C953
C944
R947
D943
Q943
R946
R942
R953
R952
D953
C954
R944
R945
IC901
C920
Q921
C922
C921
C923
C926
C928
C930
R922
R923
RY902
D914
D912
D913
D911
R912
R911
C913
D961
D943
R943
CN302
CN303
CN301
1-643-763
③
TO AUDIO BOARD CN203 (See page 8.)
⑦
TO TRANSFORMER(B) BOARD CN921 (See page 18.)
[CONNECTOR(A) BOARD]
CN312
CN311
1-642-439
(See page 8.)
TO AUDIO BOARD CN201
⑤
CN411
SYSTEM CONTROL 1
E,AUS, EA,JE MODEL
J401
ADAPTOR OUT
SHORT PLUG
SHORT PLUG
AEP,UK, G,IT MODEL
J402
SUPER WOOFER OUT
CN412
SYSTEM CONTROL 2
04
CN101
CN102
C451
C401
R451
R401
[JACK BOARD]
1-642-436

## 3-8. SCHEMATIC DIAGRAM—POWER/POWER AMPLIFIER SECTION— • Refer to page 29 for IC Block Diagrams.



[POWER AMPLIFIER BOARD]
IC801
POWER AMP
IC801-1 STK-4142MK2
IC801-2 STK-4142MK2
Q801,851
OVER LOAD DET
Q801 2SC1841
Q851 2SC1841
Q701
PROTECT SWITCH
Q701 2SA1175
IC701
PROTECTOR
IC701 μPC1237HA
Q781
RELAY SWITCH
Q781 2SC2603
L801
L851
CN801
NC
SL
AG
SL
NC
RY-ON
NC
NC
NC
AC
RY
NC
R
L
G
G
-B
-B
+B
+B
CN802
[POWER BOARD]
CN301
R912 0.1
R911 0.1
TO TRANSFORMER(B) BOARD CN921
7
(See page 14.)
IC901
REG, RESET
IC901 LA5603
EN DELAY
EN
V QUICK
V MUTE
VEE
CN3
-7.5V
GND
+7.5V
CN2
VCC
CN1
+5.6
CNA
+5.6BU
+5.1BU
CB
RESET
IC902
REG
IC902 M5F78M12L
Q921 2SC2603
POWER ON/OFF SWITCH
Q941 2SB1388
Q951 2SB1014
Q941,951
REG
Q942 2SC2603
Q943 2SB1388
Q942,943
SWITCH
RY902
Q961 2SB1388
Q961
RELAY DRIVE
B+
B-
<RESET>
<POWERON>
<+5.6BV>
<+5.6>
<+8>
<-8>
<ACDET>
<+35>
<-25>
<-30>
04


10
11
12
13
14
15
16
17
18
19
20
CN801
NC
SL
AG
SL
NC
RY-ON
NC
4
TO AUDIO BOARD CN202
(See page 12.)
NC
NC
AC
RY
NC
R
L
G
G
-B
-B
+B
+B
CN802
6
TO CONNECTOR(B) BOARD CN821
(See page 15.)
[JACK BOARD]
CJ12
CJ11
CJ10
CJ9
CJ8
CJ7
CJ6
CJ5
CJ4
CJ3
CJ2
CJ1
P.AC
P.AC
G
STVF
-25V
-30V
+5.6V
G
G
G
G
CN102
B−
B+
G
G
-30V
STVF
-25V
AUBUS
+5.6V
G
G
ST L
G
G
ST R
CN411
SYSTEM CONTROL 1
ST L
ST R
G
R
G
L
RECOUT-L
RECOUT-R
NC
NC
SYS-ON
TC-FUNC
AUBUS
P.AC
G
P.AC
G
CN412
SYSTEM CONTROL 2
(See page 12.)
TO AUDIO BOARD CN201
5
AUBUS
TC-FUNC
SYS-ON
NC
SWO
RECOUT-L
RECOUT-R
R
G
L
CN101
C401 100p
C451 100p
R401 1k
R451 1k
AEP,UK,G,IT MODEL
J401
J401 ADAPTOR
-1 -2
OUT OUT
L -3 -4 R
IN IN
SHORT PLUG
E,AUS,EA,JE MODEL
J402
SUPER WOOFER OUT
B+
CN302
+8V
+5.6V
-8V
RESET
POWER-ON
+35V
VF2
+5.6BU
VF1
ACDET
AG
AG
DG
3
TO AUDIO BOARD CN203
(See page 12.)
B−
B+
CN303
STVF
-25V
PAC
G
PAC
-30V
+5.6BU
G
G
G
G
CB12
CB11
CB10
CB9
CB8
CB7
CB6
CB5
CB4
CB3
CB2
CB1
[CONNECTOR(A)BOARD]
STVF
-25V
P.AC
G
P.AC
-30V
+5.6BU
G
G
G
G
CN311
P.AC
P.AC
G
STVF
-25V
-30V
+5.6BU
G
G
G
G
CN312
CJ12
CJ11
CJ10
CJ9
CJ8
CJ7
CJ6
CJ5
CJ4
CJ3
CJ2
CJ1
B−

**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

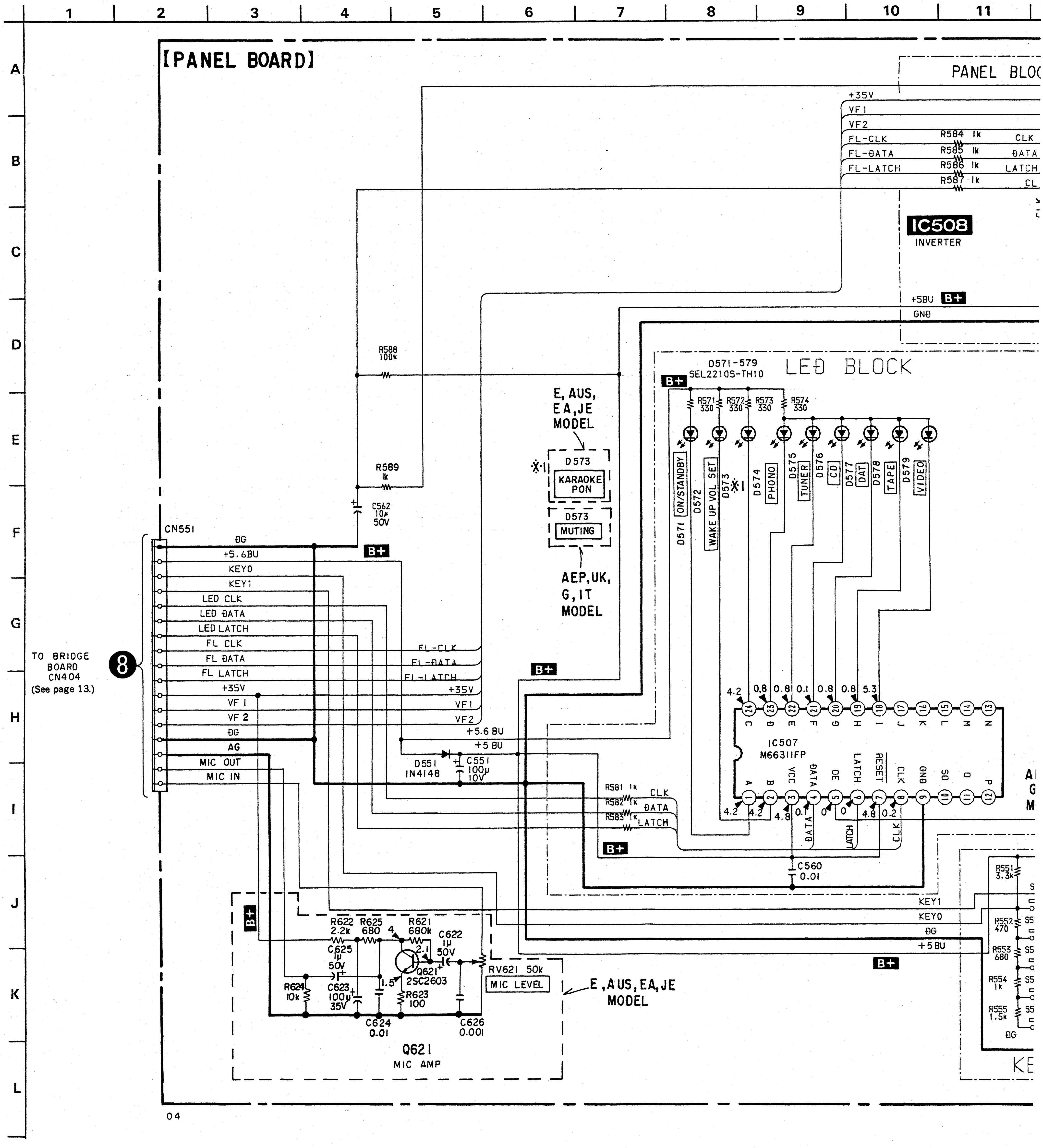
- **B+** : B+ Line
- **B−** : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
  no mark: SYSTEM POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : TUNER

| | |
|---|---|
| •G | : Germany model |
| IT | : Italian model |
| AUS | : Australian model |
| EA | : Saudi Arabia model |
| JE | : Tourist model |

**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- **B+** : B+ Line
- **B−** : B− Line

## 3-9. SCHEMATIC DIAGRAM—PANEL SECTION— • Refer to page 29 for IC Block Diagrams.

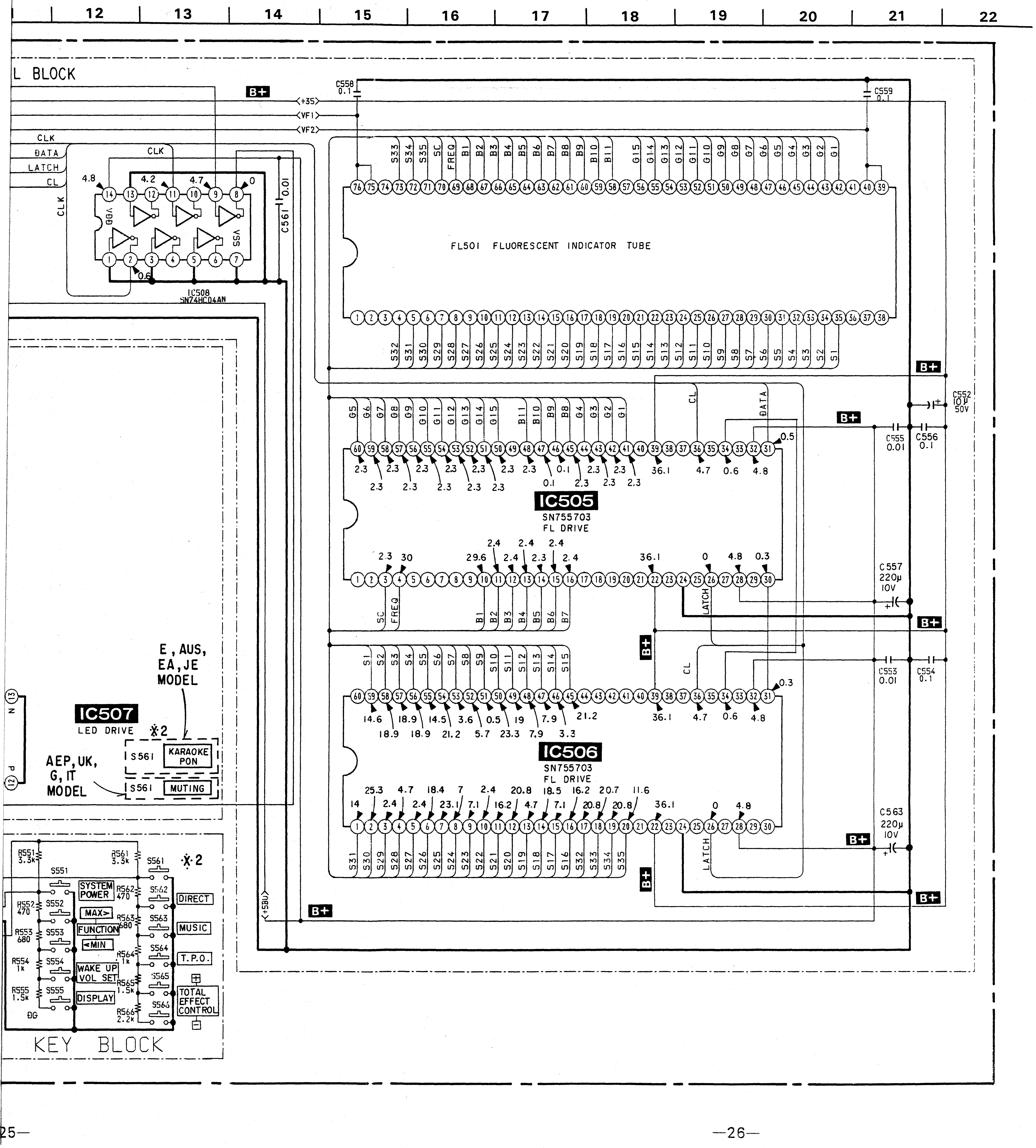


1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K L
[PANEL BOARD]
PANEL BLOC
+35V
VF1
VF2
FL-CLK
FL-DATA
FL-LATCH
R584 1k
R585 1k
R586 1k
R587 1k
CLK
DATA
LATCH
IC508
INVERTER
+5BU
B+
GND
R588 100k
R589 1k
C562 10μ 50V
D571-579 SEL2210S-TH10
LED BLOCK
R571 330
R572 330
R573 330
R574 330
D571 ON/STANDBY
D572 WAKE UP VOL SET
D573 ※1
D574 PHONO
D575 TUNER
D576 CD
D577 DAT
D578 TAPE
D579 VIDEO
E, AUS, EA, JE MODEL
※1
D573 KARAOKE PON
D573 MUTING
AEP, UK, G, IT MODEL
CN551
DG
+5.6BU
KEY0
KEY1
LED CLK
LED DATA
LED LATCH
FL CLK
FL DATA
FL LATCH
+35V
VF1
VF2
DG
AG
MIC OUT
MIC IN
TO BRIDGE BOARD CN404 (See page 13.)
8
FL-CLK
FL-DATA
FL-LATCH
+35V
VF1
VF2
+5.6BU
+5BU
D551 1N4148
C551 100μ 10V
IC507 M66311FP
4.2 0.8 0.8 0.1 0.8 0.8 5.3
C D E F G H I J K L M N
A B VCC DATA OE LATCH RESET CLK GND SO O P
4.2 4.2 4.8 0.1 0 0 4.8 0.2
R581 1k CLK
R582 1k DATA
R583 1k LATCH
C560 0.01
DATA LATCH CLK
KEY1
KEY0
DG
+5BU
R551 3.3k
R552 470
R553 680
R554 1k
R555 1.5k
DG
KE
R622 2.2k
R625 680
R621 680k
C622 1μ 50V
C625 1μ 50V
Q621 2SC2603
R624 10k
C623 100μ 35V
R623 100
C624 0.01
C626 0.001
RV621 50k MIC LEVEL
E, AUS, EA, JE MODEL
Q621 MIC AMP
04

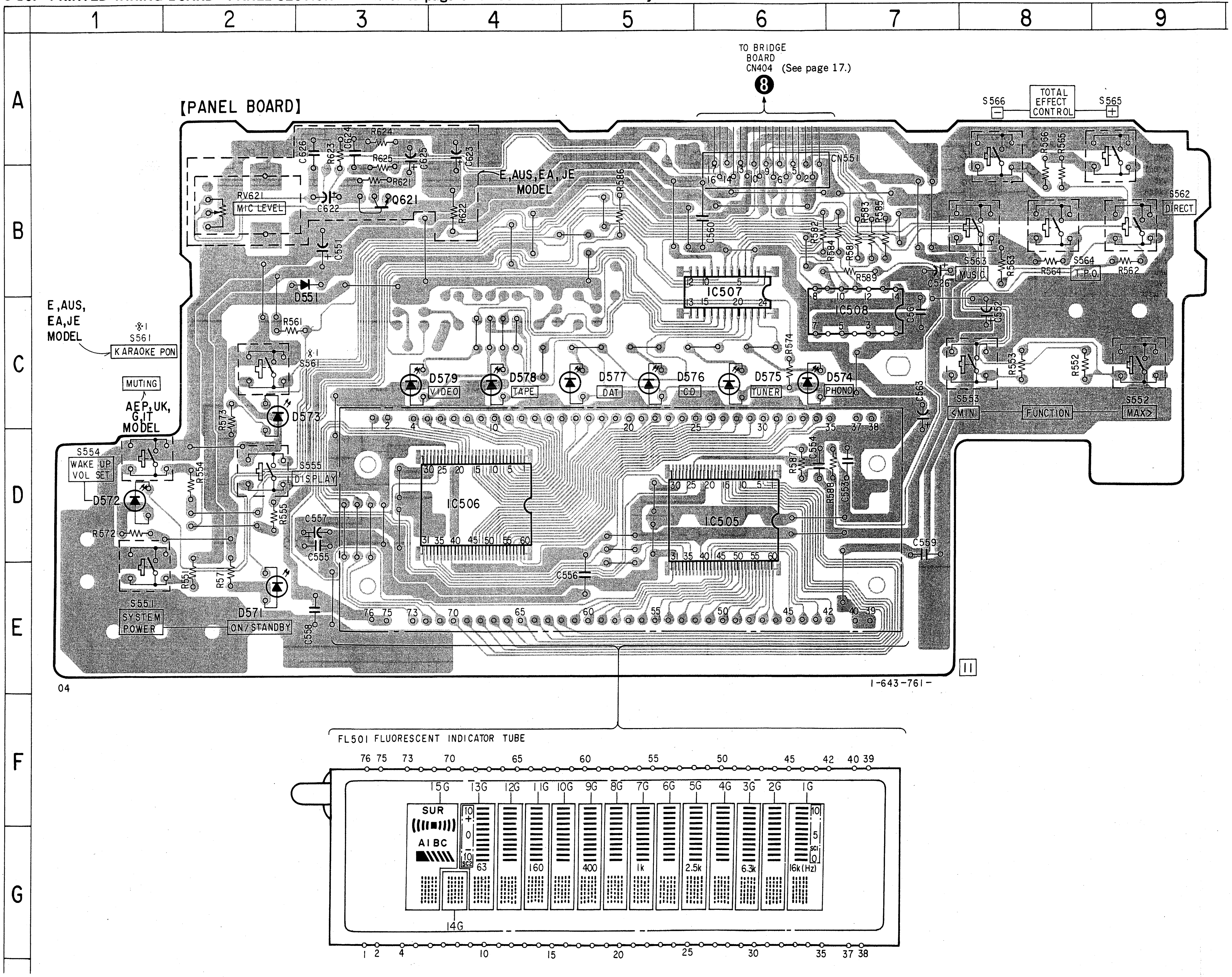
μμF
tics
wise

- Voltage is dc with respect to ground under no-signal conditions.
  no mark: SYSTEM POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

•G : Germany model
IT : Italian model
AUS : Australian model
EA : Saudi Arabia model
JE : Tourist model


12
13
14
15
16
17
18
19
20
21
22
L BLOCK
B+
C558 0.1
C559 0.1
<+35>
<VF1>
<VF2>
CLK
DATA
LATCH
CL
4.8
4.2
4.7
0
0.6
VDD
VSS
C561 0.01
IC508 SN74HC04AN
FL501 FLUORESCENT INDICATOR TUBE
S33 S34 S35 SC FREQ B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 G15 G14 G13 G12 G11 G10 G9 G8 G7 G6 G5 G4 G3 G2 G1
S32 S31 S30 S29 S28 S27 S26 S25 S24 S23 S22 S21 S20 S19 S18 S17 S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1
IC505
SN755703
FL DRIVE
C552 10μ 50V
C555 0.01
C556 0.1
C557 220μ 10V
IC506
SN755703
FL DRIVE
C553 0.01
C554 0.1
C563 220μ 10V
E, AUS, EA, JE MODEL
IC507
LED DRIVE
※2
S561 KARAOKE PON
AEP, UK, G, IT MODEL
S561 MUTING
<+5BU>
R551 3.3k
R561 3.3k
S551
SYSTEM POWER
S561
R562 470
S562
DIRECT
R552 470
S552
MAX>
R563 680
S563
R553 680
S553
FUNCTION
MUSIC
<MIN
R564 1k
S564
T.P.O.
R554 1k
S554
WAKE UP VOL SET
R565 1.5k
S565
TOTAL EFFECT CONTROL
R555 1.5k
S555
DISPLAY
R566 2.2k
S566
KEY BLOCK

## 3-10. PRINTED WIRING BOARD—PANEL SECTION— • Refer to page 6 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
[PANEL BOARD]
TO BRIDGE BOARD CN404 (See page 17.)
8
CN551
S566
TOTAL EFFECT CONTROL
S565
RV621
MIC LEVEL
Q621
E,AUS,EA,JE MODEL
IC507
IC508
S562
DIRECT
S563
MUSIC
S564
T.P.O.
D551
E,AUS, EA,JE MODEL
※1 S561
KARAOKE PON
MUTING
AEP,UK, G,IT MODEL
D579
VIDEO
D578
TAPE
D577
DAT
D576
CD
D575
TUNER
D574
PHONO
D573
S553
MIN
FUNCTION
S552
MAX
S554
WAKE UP VOL SET
D572
S555
DISPLAY
IC506
IC505
S551
SYSTEM POWER
D571
ON/STANDBY
04
1-643-761-
11
FL501 FLUORESCENT INDICATOR TUBE
SUR
AIBC
15G
14G
13G
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
63
160
400
1k
2.5k
6.3k
16k(Hz)

### • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D551 | B-3 |
| D571 | E-2 |
| D572 | D-1 |
| D573 | C-2 |
| D574 | C-6 |
| D575 | C-6 |
| D576 | C-5 |
| D577 | C-5 |
| D578 | C-4 |
| D579 | C-3 |
| IC505 | D-6 |
| IC506 | D-4 |
| IC507 | B-6 |
| IC508 | C-7 |
| Q621 (※1) | B-3 |

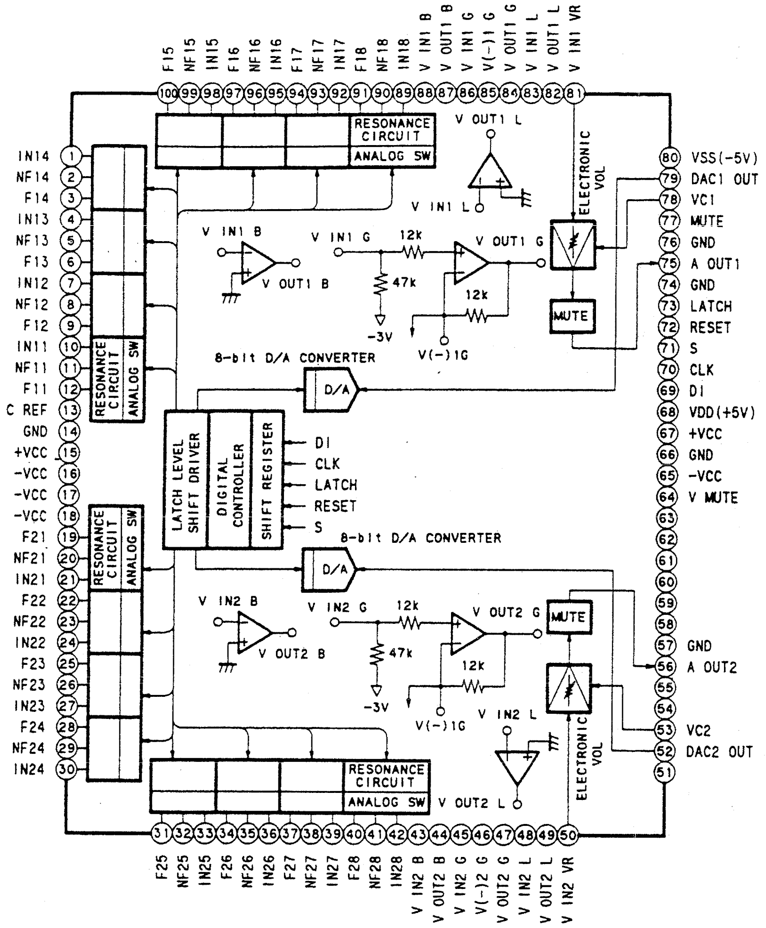
※1 : Use on E, Australian, Saudi Arabia and Tourist model.

**Note:**

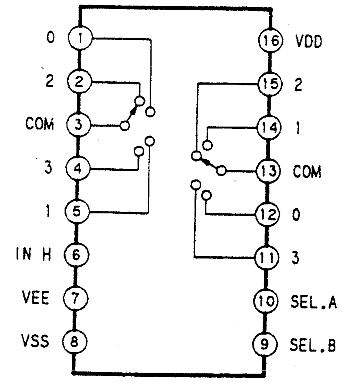
- ○—— : parts extracted from the component side.
- G : Germany model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  JE : Tourist model

## • IC Block Diagrams

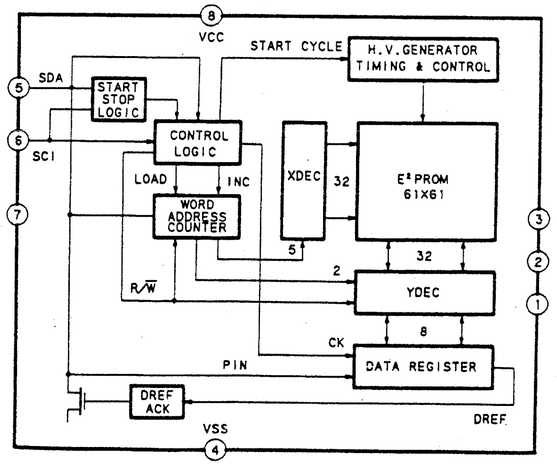
### IC201 CXA1492Q


F15
NF15
IN15
F16
NF16
IN16
F17
NF17
IN17
F18
NF18
IN18
V IN1 B
V OUT1 B
V IN1 G
V(-)1 G
V OUT1 G
V IN1 L
V OUT1 L
V IN1 VR
IN14
NF14
F14
IN13
NF13
F13
IN12
NF12
F12
IN11
NF11
F11
C REF
GND
+VCC
-VCC
-VCC
-VCC
F21
NF21
IN21
F22
NF22
IN22
F23
NF23
IN23
F24
NF24
IN24
VSS(-5V)
DAC1 OUT
VC1
MUTE
GND
A OUT1
GND
LATCH
RESET
S
CLK
DI
VDD(+5V)
+VCC
GND
-VCC
V MUTE
GND
A OUT2
VC2
DAC2 OUT
RESONANCE CIRCUIT
ANALOG SW
V OUT1 L
V IN1 L
V IN1 B
V OUT1 B
V IN1 G
12k
47k
V OUT1 G
12k
-3V
V(-)1G
ELECTRONIC VOL
MUTE
8-bit D/A CONVERTER
D/A
LATCH LEVEL SHIFT DRIVER
DIGITAL CONTROLLER
SHIFT REGISTER
DI
CLK
LATCH
RESET
S
8-bit D/A CONVERTER
D/A
V IN2 B
V OUT2 B
V IN2 G
12k
47k
V OUT2 G
12k
-3V
V(-)1G
V IN2 L
MUTE
ELECTRONIC VOL
V OUT2 L
F25
NF25
IN25
F26
NF26
IN26
F27
NF27
IN27
F28
NF28
IN28
V IN2 B
V OUT2 B
V IN2 G
V(-)2 G
V OUT2 G
V IN2 L
V OUT2 L
V IN2 VR

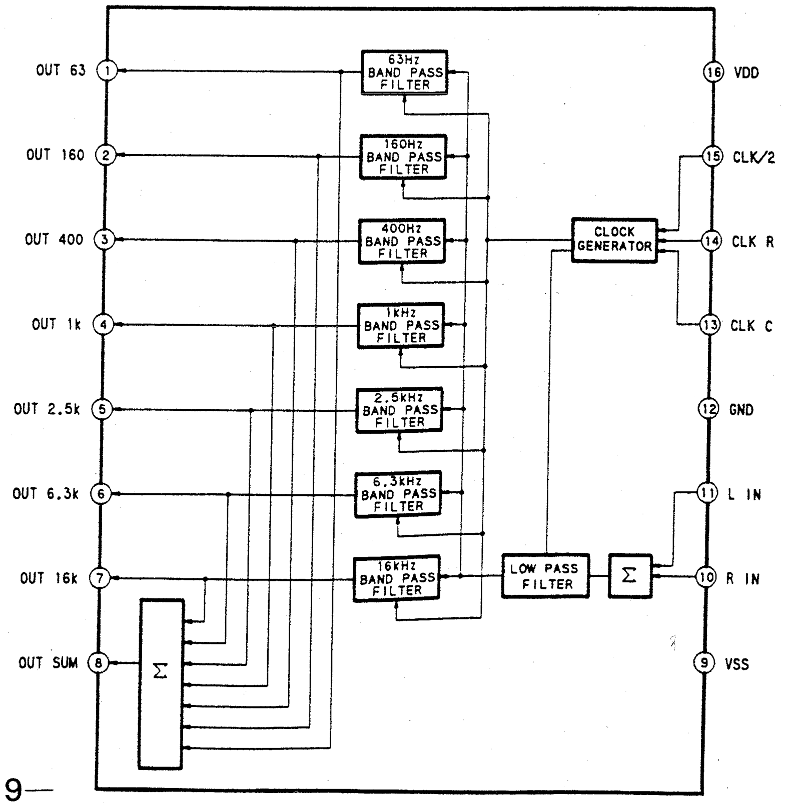
### IC303, 503 CD4052BCM


0
2
COM
3
1
IN H
VEE
VSS
VDD
2
1
COM
0
3
SEL.A
SEL.B

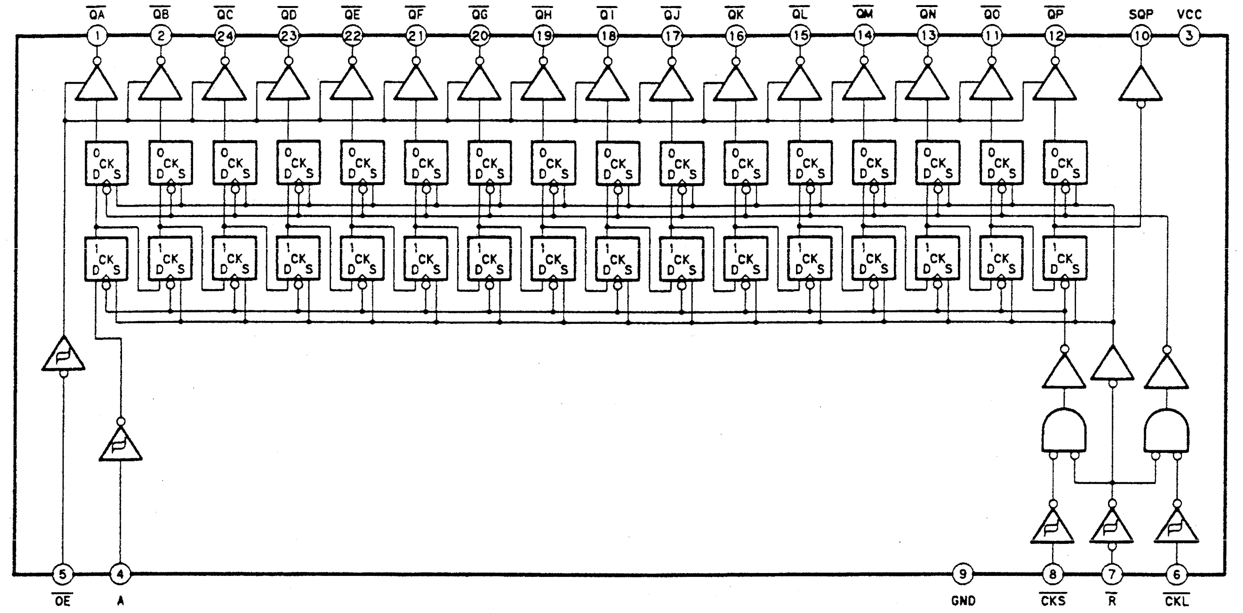
### IC502 X24C01P


VCC
SDA
SCI
START STOP LOGIC
START CYCLE
H.V.GENERATOR TIMING & CONTROL
CONTROL LOGIC
LOAD
INC
WORD ADDRESS COUNTER
XDEC
32
E²PROM 61X61
5
2
32
R/W
YDEC
8
CK
PIN
DATA REGISTER
DREF ACK
VSS
DREF

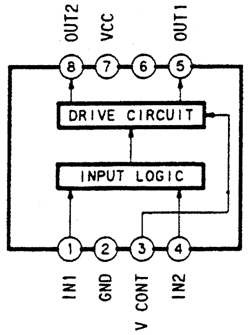
### IC504 XR1091DCP


OUT 63
OUT 160
OUT 400
OUT 1k
OUT 2.5k
OUT 6.3k
OUT 16k
OUT SUM
63Hz BAND PASS FILTER
160Hz BAND PASS FILTER
400Hz BAND PASS FILTER
1kHz BAND PASS FILTER
2.5kHz BAND PASS FILTER
6.3kHz BAND PASS FILTER
16kHz BAND PASS FILTER
Σ
CLOCK GENERATOR
LOW PASS FILTER
Σ
VDD
CLK/2
CLK R
CLK C
GND
L IN
R IN
VSS

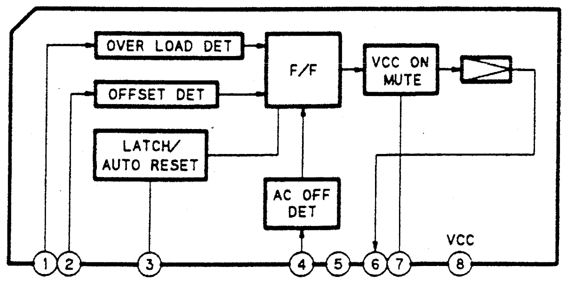
### IC507 M66311FP


QA
QB
QC
QD
QE
QF
QG
QH
QI
QJ
QK
QL
QM
QN
QO
QP
SQP
VCC
OE
A
GND
CKS
R
CKL

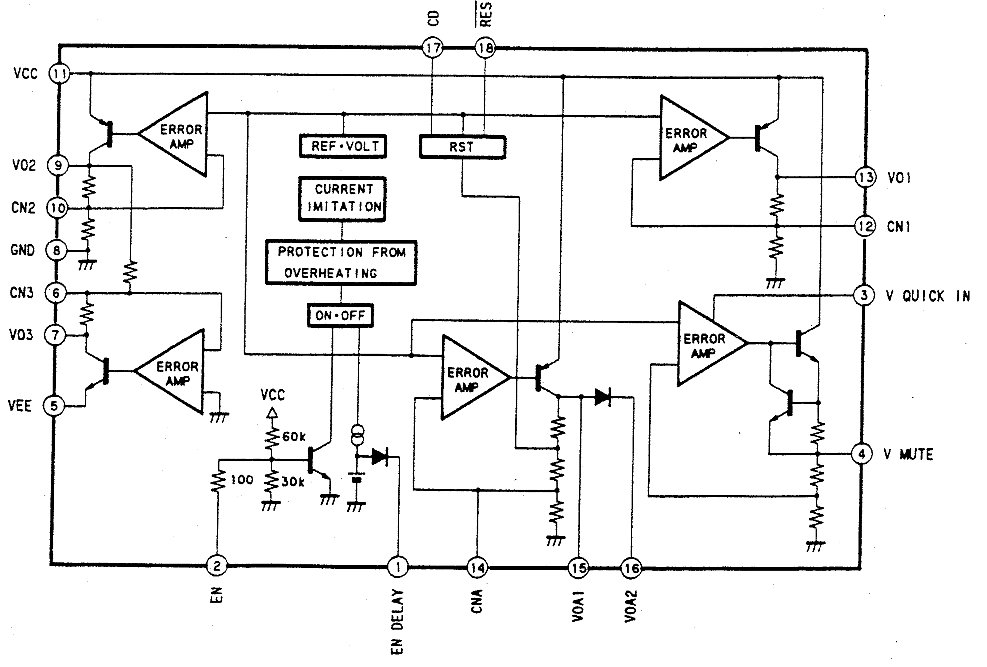
### IC591 LB1639


OUT2
VCC
OUT1
DRIVE CIRCUIT
INPUT LOGIC
IN1
GND
V CONT
IN2

### IC701 μPC1237HA


OVER LOAD DET
OFFSET DET
LATCH/ AUTO RESET
F/F
VCC ON MUTE
AC OFF DET
VCC

### IC901 LA5603


CD
RES
VCC
VO2
CN2
GND
CN3
VO3
VEE
ERROR AMP
REF·VOLT
RST
CURRENT IMITATION
PROTECTION FROM OVERHEATING
ON·OFF
ERROR AMP
VCC
60k
30k
100
ERROR AMP
ERROR AMP
ERROR AMP
VO1
CN1
V QUICK IN
V MUTE
EN
EN DELAY
CNA
VOA1
VOA2

## 3-11. PIN FUNCTION OF IC501 ($\mu$PD78134GF-051-3B9)

According to keying in or remote control signal, it sets the Graphic equalizer•electronic volume (IC201), KARAOKE PON (E, AUS, EA and JE model), AI BC, surround etc. and switches the LED and FL tube display and functions in the deck.

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 | CLR0 | I | Timer pulse input |
| 2 | +5V | I | Not in use with the equipment (+5V) |
| 3 | FL DATA | O | Serial data output to the FL tube driver (IC505, 506) |
| 4 | $\overline{\text{FL CLK}}$ | O | Data transfer clock output to the FL tube driver (IC505, 506) |
| 5 | S0 | I | Input port for model selection. Connected to GND with the equipment. |
| 6 | S1 | I | Input port for model selection. Connected to GND (AEP, UK, G and IT model) or +5V (E, AUS, EA and JE model) with the equipment. |
| 7—12 | +5V | I | Not in use with the equipment (+5V) |
| 13 | POT00 | O | Timer pulse output (about 400$\mu$sec) |
| 14 | LED CLK | O | Data transfer clock output to the LED driver (IC507) |
| 15 | LED DATA | O | Serial data output to LED driver (IC507) |
| 16 | LED LATCH | O | Data latch output to the LED driver (IC507) |
| 17, 18 | NC | — | Not in use with the equipment (open) |
| 19 | AVSS | — | Analog system power terminal (GND) |
| 20 | AVREF | I | Analog port reference voltage input (+5V) |
| 21, 22 | KEY0, 1 | I | Key input (Analog)*1 |
| 23, 24 | SPE0, 1 | I | Spectrum analysis data input (analog) |
| 25 | VOL DATA | I | Volume position data input (analog) |
| 26—28 | G | — | Not in use with the equipment (GND) |
| 29 | $\overline{\text{RESET}}$ | I | System reset input. "L" : reset |
| 30 | VDD | — | Power terminal (+5V) |
| 31, 32 | X1, X2 | — | Crystal connection terminal for system clock oscillation |
| 33 | VSS | — | Power terminal (GND) |
| 34 | SPE A | O | Spectrum analysis data input switch A |
| 35 | SPE B | O | Spectrum analysis data input switch B |
| 36 | SPE INH | O | Spectrum analysis data input switch inhibit |
| 37 | AI BC A | O | AI BC output switch A |
| 38 | AI BC B | O | AI BC output switch B |
| 39 | AI BC INH | O | AI BC output switch inhibit |
| 40, 41 | NC | — | Not in use with the equipment (open) |
| 42 | SDL | O | Clock output to E$^2$P-ROM (IC502) |
| 43 | SDA | I/O | Data input/output (user preset memory data, etc.) with E$^2$P-ROM (IC502) |
| 44 | BACK UP | — | Not in use with the equipment (open) |
| 45 | AU BUS IN | I | Audio bus input |
| 46 | AU BUS OUT | O | Audio bus output (tuner power ON/OFF and instruction to the function switch microcomputer in the deck) |
| 47 | NC | — | Not in use with the equipment (open) |
| 48 | VOL DOWN | O | DOWN signal output of the volume motor (RV591) |
| 49 | VOL UP | O | UP signal output of the volume motor (RV591) |
| 50 | TC-FUNC | I | Request of audio bus (FUNCTION data) from the function switch microcomputer in the deck (TC-H3700) |
| 51 | RESET | O | Reset output to the Graphic equalizer•electronic volume (IC201). "L" : reset |
| 52 | LATCH | O | Data latch output to the Graphic equalizer•electronic volume (IC201) |

- G : Germany model
IT : Italian model
AUS : Australian model
EA : Saudi Arabia model
JE : Tourist model

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 53 | CLK | O | Data transfer clock output to the Graphic equalizer•electronic volume (IC201) |
| 54 | $\overline{\text{DATA}}$ | O | Serial data output to the Graphic equalizer•electronic volume (IC201) |
| 55 | $\overline{\text{MUTE}}$ | O | Mute output |
| 56 | $\overline{\text{RY-ON}}$ | O | Speaker relay control |
| 57 | POWER $\overline{\text{ON}}$/OFF | O | Power (IC901) output control. "L" : Power ON |
| 58 | NC | — | Not in use with the equipment (open) |
| 59 | SUR A | O | Surround control output switch A |
| 60 | SUR B | O | Surround control output switch B |
| 61 | SUR C | O | Surround control output switch C |
| 62 | SUR INH | O | Surround control output switch inhibit |
| 63, 64 | NC | — | Not in use with the equipment (open) |
| 65 | KARAOKE | O | Not in use with the equipment (open) (AEP, UK, G and IT model)<br>KARAOKE PON ON/OFF (IC302 (1/2)) control output. "H" : KARAOKE PON (E, AUS, EA and JE model) |
| 66 | NC | — | Not in use with the equipment (open) |
| 67 | VSS | — | Power terminal (GND) |
| 68 | +5V | I | Not in use with the equipment (+5V) |
| 69—76 | NC | — | Not in use with the equipment (open) |
| 77 | VDD | — | Power terminal (+5V) |
| 78 | NC | — | Not in use with the equipment (open) |
| 79 | FL LATCH | O | Data latch output to the FL tube driver (IC505, 506) |
| 80 | NC | — | Not in use with the equipment (open) |

*1 Key input (analog port)

| Voltage (V)<br>Input port | 0 | 0.63 | 1.3 | 2.0 | 2.6 | 3.2 |
|---|---|---|---|---|---|---|
| Pin ㉑ KEY 0 | SYSTEM POWER<br>S551 | FUNCTION MAX><br>S552 | FUNCTION <MIN<br>S553 | WAKE UP VOL SET<br>S554 | DISPLAY<br>S555 | —— |
| Pin ㉒ KEY1 | ※1 MUTING<br>※2 KARAOKE PON<br>S561 | DIRECT<br>S562 | MUSIC<br>S563 | T. P. O.<br>S564 | TOTAL EFFECT+<br>S565 | TOTAL EFFECT−<br>S566 |

※1 : Use on AEP, UK, G and IT model.
※2 : Use on E, AUS, EA and JE model.
• G : Germany model
IT : Italian model
AUS : Australian model
EA : Saudi Arabia model
JE : Tourist model

# SECTION 4
# EXPLODED VIEW

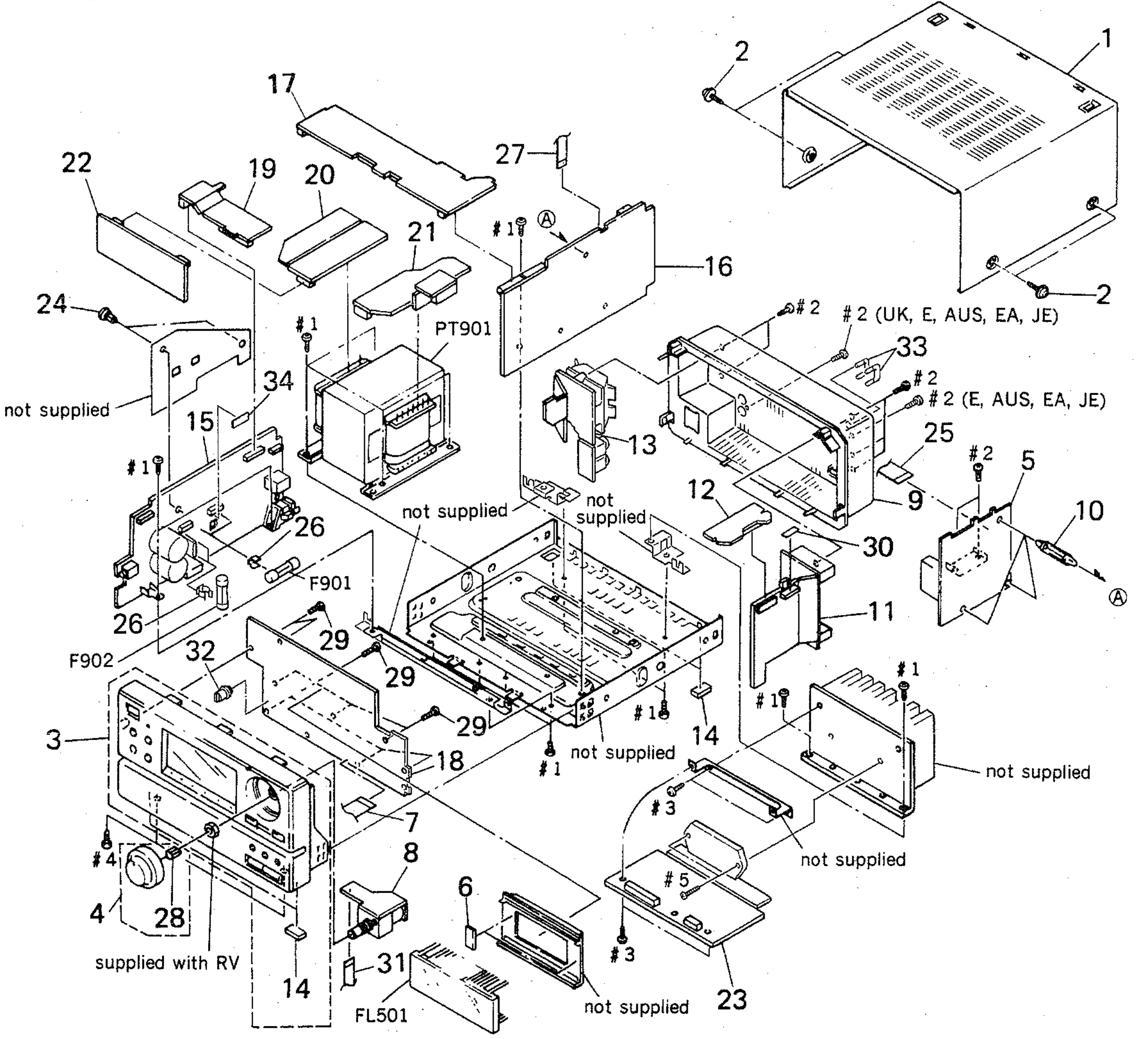
**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- G : Germany model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  JE : Tourist model

## 4-1. MAIN SECTION


1
2
17
22
19
20
27
# 1
Ⓐ
21
16
2
24
# 1
PT901
# 2
# 2 (UK, E, AUS, EA, JE)
33
not supplied
34
# 2
# 2 (E, AUS, EA, JE)
15
13
25
# 1
26
not supplied
not supplied
12
9
# 2
5
10
30
F901
11
Ⓐ
26
29
32
29
F902
29
# 1
# 1
14
3
18
not supplied
# 1
not supplied
7
# 3
8
not supplied
# 4
# 5
6
4
28
supplied with RV
31
# 3
14
FL501
not supplied
23

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 1 | 4-944-522-21 | CASE (K211522) | |
| 2 | 3-363-099-01 | SCREW (CASE +3X8 TP2) | |
| 3 | X-4942-490-1 | PANEL ASSY, FRONT (E, AUS, EA, JE) | |
| 3 | X-4942-491-1 | PANEL ASSY, FRONT (AEP, UK, G, IT) | |
| 4 | X-4942-471-1 | KNOB (VOLUME) ASSY | |
| * 5 | A-4347-380-A | POWER BOARD, COMPLETE | |
| * 6 | 4-932-810-11 | CUSHION (FL) | |
| 7 | 1-690-994-11 | WIRE (FLAT TYPE) (17 CORE) | |
| * 8 | 1-643-765-11 | VOLUME BOARD | |
| * 9 | 4-948-765-11 | PANEL, BACK (E, AUS, EA, JE) | |
| * 9 | 4-948-765-21 | PANEL, BACK (UK) | |
| * 9 | 4-948-765-32 | PANEL, BACK (AEP, G, IT) | |
| * 10 | 4-385-948-01 | HOLDER, PCB | |
| * 11 | 1-642-436-11 | JACK BOARD | |
| * 12 | 1-642-439-11 | CONNECTOR (A) BOARD | |
| * 13 | 1-644-352-11 | SPEAKER BOARD | |
| 14 | 4-930-336-21 | FOOT (FELT) | |
| * 15 | A-4347-381-A | AC BOARD, COMPLETE (AEP, UK) | |
| * 15 | A-4347-382-A | AC BOARD, COMPLETE (G, IT) | |
| * 15 | A-4347-383-A | AC BOARD, COMPLETE (E, JE) | |
| * 15 | A-4347-384-A | AC BOARD, COMPLETE (EA) | |
| * 15 | A-4347-702-A | AC BOARD, COMPLETE (AUS) | |
| * 16 | A-4347-374-A | AUDIO BOARD, COMPLETE (AEP, UK) | |
| * 16 | A-4347-375-A | AUDIO BOARD, COMPLETE (G, IT) | |
| * 16 | A-4347-376-A | AUDIO BOARD, COMPLETE (E, AUS, EA, JE) | |
| * 17 | 1-642-438-11 | BRIDGE BOARD | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 18 | A-4347-377-A | PANEL BOARD, COMPLETE (AEP, UK, G, IT) | |
| * 18 | A-4347-705-A | PANEL BOARD, COMPLETE (E, AUS, EA, JE) | |
| * 19 | 1-642-440-11 | CONNECTOR (B) BOARD | |
| * 20 | 1-642-441-11 | TRANSFORMER (A) BOARD | |
| * 21 | 1-642-442-11 | TRANSFORMER (B) BOARD | |
| * 22 | 1-642-443-11 | TRANSFORMER (C) BOARD | |
| * 23 | A-4347-378-A | POWER AMPLIFIER BOARD, COMPLETE (AEP, UK, E, AUS, EA, JE) | |
| * 23 | A-4347-379-A | POWER AMPLIFIER BOARD, COMPLETE (G, IT) | |
| 24 | 4-812-134-11 | RIVET NYLON, 3.5 | |
| 25 | 1-690-993-11 | WIRE (FLAT TYPE) (13 CORE) | |
| * 26 | 1-533-213-31 | HOLDER, FUSE | |
| 27 | 1-690-992-11 | WIRE (FLAT TYPE) (7 CORE) | |
| 28 | 3-703-466-00 | SPRING (6600) | |
| 29 | 4-928-635-01 | SCREW, +BV (2.6X8) TAPPING | |
| 30 | 9-911-835-XX | SPACER | |
| 31 | 1-590-240-11 | WIRE, FLAT TYPE (7 CORE) | |
| 32 | 4-950-897-01 | KNOB (MIC LEVEL) (E, AUS, EA, JE) | |
| 33 | 1-535-706-11 | PLUG, JUMPER (E, AUS, EA, JE) | |
| 34 | 3-701-947-12 | LABEL (T1.25A), FUSE (AUS) | |
| ⚠F901 | 1-532-285-00 | FUSE, TIME-LAG (T1.25A) | |
| ⚠F902 | 1-532-286-00 | FUSE, TIME-LAG (T2.5A) (E, EA, JE) | |
| FL501 | 1-519-720-11 | INDICATOR TUBE, FLUORESCENT | |
| ⚠PT901 | 1-450-896-11 | TRANSFORMER, POWER (AEP, G, IT) | |
| ⚠PT901 | 1-450-897-11 | TRANSFORMER, POWER (UK, AUS) | |
| ⚠PT901 | 1-450-898-11 | TRANSFORMER, POWER (E, EA, JE) | |

# SECTION 5
# ELECTRICAL PARTS LIST

**AC** **PANEL** **POWER**
**POWER AMPLIFIER** **VOLUME**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

- G : Germany model
  IT : Italian model
  AUS Australian model
  EA Saudi Arabia model
  JE Tourist model

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-4347-381-A | AC BOARD, COMPLETE (AEP, UK) | | | |
| * | A-4347-382-A | AC BOARD, COMPLETE (G, IT) | | | |
| * | A-4347-383-A | AC BOARD, COMPLETE (E, JE) | | | |
| * | A-4347-384-A | AC BOARD, COMPLETE (EA) | | | |
| * | A-4347-702-A | AC BOARD, COMPLETE (AUS) | | | |
| | | *************************** | | | |
| * | A-4347-377-A | PANEL BOARD, COMPLETE (AEP, UK, G, IT) | | | |
| * | A-4347-705-A | PANEL BOARD, COMPLETE (E, AUS, EA, JE) | | | |
| | | *********************************** | | | |
| * | A-4347-380-A | POWER BOARD, COMPLETE | | | |
| | | ********************* | | | |
| * | A-4347-378-A | POWER AMPLIFIER BOARD, COMPLETE | | | |
| | | (AEP, UK, E, AUS, EA, JE) | | | |
| * | A-4347-379-A | POWER AMPLIFIER BOARD, COMPLETE (G, IT) | | | |
| | | ************************************** | | | |
| * | 1-643-765-11 | VOLUME BOARD | | | |
| | | ************ | | | |
| * | 1-533-213-31 | HOLDER, FUSE | | | |
| * | 4-932-810-11 | CUSHION (FL) | | | |
| | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 IT-3 | | | |
| | | < CAPACITOR > | | | |
| C551 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C552 | 1-124-261-00 | ELECT | 10uF | 20% | 50V |
| C553 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C554 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C555 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C556 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C557 | 1-126-923-11 | ELECT | 220uF | 20% | 10V |
| C558 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C559 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C560 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C561 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C562 | 1-124-261-00 | ELECT | 10uF | 20% | 50V |
| C563 | 1-126-923-11 | ELECT | 220uF | 20% | 10V |
| C591 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C592 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C593 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C608 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| | | (AEP, UK, E, AUS, EA, JE) | | | |
| C608 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (G, IT) |
| C611 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C612 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C613 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C614 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C615 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| | | (E, AUS, EA, JE) | | | |
| C616 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| | | (E, AUS, EA, JE) | | | |
| C617 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| | | (E, AUS, EA, JE) | | | |
| C622 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C623 | 1-126-948-11 | ELECT | 100uF | 20% | 35V |
| | | (E, AUS, EA, JE) | | | |
| C624 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| | | (E, AUS, EA, JE) | | | |
| C625 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C626 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C658 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| | | (AEP, UK, E, AUS, EA, JE) | | | |
| C658 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (G, IT) |
| C690 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C702 | 1-126-176-11 | ELECT | 220uF | 20% | 10V |
| C704 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C706 | 1-124-927-11 | ELECT | 4.7uF | 20% | 100V |
| C707 | 1-126-101-11 | ELECT | 100uF | 20% | 16V |
| C801 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C802 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C803 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C804 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C806 | 1-124-910-11 | ELECT | 47uF | 20% | 50V |
| C807 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C809 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C810 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C811 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |

## AC PANEL POWER POWER AMPLIFIER VOLUME

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C813 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C816 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C851 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C852 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C853 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C854 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C856 | 1-124-910-11 | ELECT | 47uF | 20% | 50V |
| C860 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C863 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C866 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C901 | 1-126-224-11 | ELECT | 4700uF | 20% | 42V |
| C902 | 1-126-224-11 | ELECT | 4700uF | 20% | 42V |
| C903 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V |
| C904 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V |
| C911 | 1-124-563-11 | ELECT | 2200uF | 20% | 25V |
| C912 | 1-124-563-11 | ELECT | 2200uF | 20% | 25V |
| C913 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C914 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C920 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C921 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C922 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C923 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C924 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C925 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C926 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C927 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C928 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C929 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C930 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C931 | 1-126-105-11 | ELECT | 1000uF | 20% | 35V |
| C932 | 1-126-105-11 | ELECT | 1000uF | 20% | 35V |
| C933 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C934 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C941 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C942 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C943 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C944 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C951 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C952 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C953 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C954 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C961 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| * CN301 | 1-569-505-11 | PIN, CONNECTOR 10P |
| * CN302 | 1-568-832-11 | SOCKET, CONNECTOR 13P |
| CN303 | 1-573-826-11 | CONNECTOR, BOARD TO BOARD 12P |
| * CN551 | 1-568-836-11 | SOCKET, CONNECTOR 17P |
| * CN591 | 1-568-826-11 | SOCKET, CONNECTOR 7P |
| * CN801 | 1-568-850-11 | SOCKET, CONNECTOR 7P |
| * CN802 | 1-573-087-11 | PIN, CONNECTOR 13P |
| * CN831 | 1-573-087-11 | PIN, CONNECTOR 13P |
| CN832 | 1-566-128-11 | CONNECTOR, BOARD TO BOARD 10P |
| ⚠CN901 | 1-526-930-11 | INLET, AC (~AC IN) (E, JE) |
| ⚠CN901 | 1-526-931-11 | INLET, AC (~AC IN) (AEP, UK, G, IT, AUS, EA) |
| * CN902 | 1-580-940-11 | PIN, CONNECTOR 4P |
| * CN903 | 1-580-940-11 | PIN, CONNECTOR 4P (E, EA, JE) |
| * CN904 | 1-569-502-11 | PIN, CONNECTOR 7P |
| CN905 | 1-573-826-11 | CONNECTOR, BOARD TO BOARD 12P |

< DIODE >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| D551 | 8-719-987-63 | DIODE | 1N4148M | |
| D571 | 8-719-301-37 | LED | SEL2210S-CD | (ON/STANDBY) |
| D572 | 8-719-301-37 | LED | SEL2210S-CD | (WAKE UP VOL SET) |
| D573 | 8-719-301-37 | LED<br>(AEP, UK, G, IT) | SEL2210S-CD | (MUTING) |
| D573 | 8-719-301-37 | LED<br>(E, AUS, EA, JE) | SEL2210S-CD | (KARAOKE PON) |
| D574 | 8-719-301-37 | LED | SEL2210S-CD | (PHONO) |
| D575 | 8-719-301-37 | LED | SEL2210S-CD | (TUNER) |
| D576 | 8-719-301-37 | LED | SEL2210S-CD | (CD) |
| D577 | 8-719-301-37 | LED | SEL2210S-CD | (DAT) |
| D578 | 8-719-301-37 | LED | SEL2210S-CD | (TAPE) |
| D579 | 8-719-301-37 | LED | SEL2210S-CD | (VIDEO) |
| D591 | 8-719-987-63 | DIODE | 1N4148M | |
| D791 | 8-719-987-63 | DIODE | 1N4148M | |
| D800 | 8-719-987-63 | DIODE | 1N4148M | |
| D801 | 8-719-987-63 | DIODE | 1N4148M | |
| D851 | 8-719-987-63 | DIODE | 1N4148M | |
| D901 | 8-719-302-38 | DIODE | RBV-602-01 | |
| D902 | 8-719-987-63 | DIODE | 1N4148M | |
| D903 | 8-719-987-63 | DIODE | 1N4148M | |
| D911 | 8-719-200-82 | DIODE | 11ES2 | |
| D912 | 8-719-200-82 | DIODE | 11ES2 | |
| D913 | 8-719-200-82 | DIODE | 11ES2 | |
| D914 | 8-719-200-82 | DIODE | 11ES2 | |
| D931 | 8-719-200-82 | DIODE | 11ES2 | |
| D932 | 8-719-200-82 | DIODE | 11ES2 | |
| D941 | 8-719-200-82 | DIODE | 11ES2 | |
| D942 | 8-719-002-67 | DIODE | UZL-33H | |
| D943 | 8-719-987-63 | DIODE | 1N4148M | |
| D944 | 8-719-987-63 | DIODE | 1N4148M | |
| D951 | 8-719-200-82 | DIODE | 11ES2 | |
| D952 | 8-719-934-22 | DIODE | HZS30-2L | |
| D953 | 8-719-933-33 | DIODE | HZS6A1L | |
| D961 | 8-719-987-63 | DIODE | 1N4148M | |
| D962 | 8-719-987-63 | DIODE | 1N4148M | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < FLUORESCENT INDICATOR > | |
| FL501 | 1-519-720-11 | INDICATOR TUBE, FLUORESCENT | |
| | | < IC > | |
| IC505 | 8-759-512-44 | IC SN755703 | |
| IC506 | 8-759-512-44 | IC SN755703 | |
| IC507 | 8-759-636-56 | IC M66311FP | |
| IC508 | 8-759-916-14 | IC SN74HC04N | |
| IC591 | 8-759-820-62 | IC LB1639 | |
| IC701 | 8-759-111-68 | IC uPC1237HA | |
| IC801 | 8-749-900-96 | IC STK-4142MK2 | |
| IC901 | 8-759-823-46 | IC LA5603 | |
| IC902 | 8-759-604-39 | IC AN6291 | |
| | | < JACK > | |
| J601 | 1-562-837-21 | JACK (HEADPHONES) | |
| J611 | 1-562-837-21 | JACK (MIX MIC) | (E, AUS, EA, JE) |
| | | < COIL > | |
| * L801 | 1-420-872-00 | COIL, AIR CORE | |
| * L851 | 1-420-872-00 | COIL, AIR CORE | |
| | | < LINE FILTER > | |
| ⚠LF901 | 1-424-485-11 | FILTER, LINE | (G, IT) |
| | | < TRANSISTOR > | |
| Q611 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | (E, AUS, EA, JE) |
| Q612 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | (E, AUS, EA, JE) |
| Q621 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | (E, AUS, EA, JE) |
| Q701 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q781 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q792 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q801 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | |
| Q851 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | |
| Q921 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q941 | 8-729-111-29 | TRANSISTOR 2SD1616A-K | |
| Q942 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q943 | 8-729-111-29 | TRANSISTOR 2SD1616A-K | |
| Q951 | 8-729-118-01 | TRANSISTOR 2SB1116 | |
| Q961 | 8-729-111-29 | TRANSISTOR 2SD1616A-K | |
| | | < RESISTOR > | |
| R551 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | |
| R552 | 1-249-413-11 | CARBON 470 5% 1/4W | |
| R553 | 1-249-415-11 | CARBON 680 5% 1/4W | |
| R554 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R555 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R561 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | |
| R562 | 1-249-413-11 | CARBON 470 5% 1/4W | |
| R563 | 1-249-415-11 | CARBON 680 5% 1/4W | |
| R564 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R565 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R566 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R571 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R572 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R573 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R574 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R581 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R582 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R583 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R584 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R585 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R586 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R587 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R588 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R589 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R591 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R592 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R593 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R594 | 1-249-431-11 | CARBON 15K 5% 1/4W | |
| R608 | 1-249-399-11 | CARBON 33 5% 1/4W | |
| R611 | 1-249-429-11 | CARBON 10K 5% 1/4W | (E, AUS, EA, JE) |
| R612 | 1-249-417-11 | CARBON 1K 5% 1/4W | (E, AUS, EA, JE) |
| R613 | 1-249-417-11 | CARBON 1K 5% 1/4W | (E, AUS, EA, JE) |
| R614 | 1-247-895-00 | CARBON 470K 5% 1/4W | (E, AUS, EA, JE) |
| R615 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | (E, AUS, EA, JE) |
| R616 | 1-249-417-11 | CARBON 1K 5% 1/4W | (E, AUS, EA, JE) |
| R617 | 1-249-441-11 | CARBON 100K 5% 1/4W | (E, AUS, EA, JE) |
| R619 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R621 | 1-247-899-11 | CARBON 680K 5% 1/4W | (E, AUS, EA, JE) |
| R622 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | (E, AUS, EA, JE) |
| R623 | 1-249-405-11 | CARBON 100 5% 1/4W | (E, AUS, EA, JE) |
| R624 | 1-249-429-11 | CARBON 10K 5% 1/4W | (E, AUS, EA, JE) |
| R625 | 1-249-415-11 | CARBON 680 5% 1/4W | (E, AUS, EA, JE) |
| R658 | 1-249-399-11 | CARBON 33 5% 1/4W | |
| R701 | 1-249-433-11 | CARBON 22K 5% 1/4W | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

**AC** **PANEL** **POWER** **POWER AMPLIFIER** **VOLUME** **AUDIO**

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R702 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R703 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R704 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R705 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R706 | 1-249-436-11 | CARBON 39K 5% 1/4W | |
| R781 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R782 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R793 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R794 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| ⚠R800 | 1-212-982-00 | FUSIBLE 100 5% 1/2W | F |
| R801 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R802 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R803 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R804 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R805 | 1-247-756-11 | CARBON 2.2K 5% 1/2W | |
| R806 | 1-247-756-11 | CARBON 2.2K 5% 1/2W | |
| ⚠R807 | 1-212-881-11 | FUSIBLE 100 5% 1/4W | F |
| ⚠R808 | 1-212-881-11 | FUSIBLE 100 5% 1/4W | F |
| ⚠R809 | 1-217-151-00 | RES, METAL PLATE 0.22 2W | |
| R810 | 1-247-752-11 | CARBON 1K 5% 1/2W | |
| R811 | 1-247-752-11 | CARBON 1K 5% 1/2W | |
| ⚠R812 | 1-212-958-00 | FUSIBLE 10 5% 1/2W | F |
| R813 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R814 | 1-249-431-11 | CARBON 15K 5% 1/4W | |
| R815 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R816 | 1-249-438-11 | CARBON 56K 5% 1/4W | |
| R817 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R851 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R852 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R853 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R854 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R855 | 1-247-756-11 | CARBON 2.2K 5% 1/2W | |
| R856 | 1-247-756-11 | CARBON 2.2K 5% 1/2W | |
| ⚠R859 | 1-217-151-00 | RES, METAL PLATE 0.22 2W | |
| ⚠R862 | 1-212-958-00 | FUSIBLE 10 5% 1/2W | F |
| R863 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R864 | 1-249-431-11 | CARBON 15K 5% 1/4W | |
| R865 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R866 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R867 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| ⚠R876 | 1-212-881-11 | FUSIBLE 100 5% 1/4W | F |
| R902 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| ⚠R911 | 1-219-134-11 | FUSIBLE 0.1 5% 1/4W | F |
| ⚠R912 | 1-219-134-11 | FUSIBLE 0.1 5% 1/4W | F |
| R921 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R922 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R923 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R941 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| ⚠R942 | 1-212-942-00 | FUSIBLE 2.2 5% 1/2W | F |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R943 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R944 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R945 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R946 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R947 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R951 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R952 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R953 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R961 | 1-249-429-11 | CARBON 10K 5% 1/4W | |

< VARIABLE RESISTOR >

| | | | |
|---|---|---|---|
| RV591 | 1-241-803-11 | RES, VAR, CARBON (WITH MOTOR) 10K (VOLUME) | |
| RV621 | 1-241-813-11 | RES, VAR, CARBON 50K (MIC LEVEL)<br>(E, AUS, EA, JE) | |

< RELAY >

| | | | |
|---|---|---|---|
| RY801 | 1-515-790-11 | RELAY | |
| RY901 | 1-515-626-11 | RELAY | |
| RY902 | 1-515-626-11 | RELAY | |

< SWITCH >

| | | | |
|---|---|---|---|
| S551 | 1-554-303-21 | SWITCH, TACTILE (SYSTEM POWER) | |
| S552 | 1-554-303-21 | SWITCH, TACTILE (FUNCTION MAX >) | |
| S553 | 1-554-303-21 | SWITCH, TACTILE (FUNCTION < MIN) | |
| S554 | 1-554-303-21 | SWITCH, TACTILE (WAKE UP VOL SET) | |
| S555 | 1-554-303-21 | SWITCH, TACTILE (DISPLAY) | |
| S561 | 1-554-303-21 | SWITCH, TACTILE (MUTING) (AEP, UK, G, IT) | |
| S561 | 1-554-303-21 | SWITCH, TACTILE (KARAOKE PON)<br>(E, AUS, EA, JE) | |
| S562 | 1-554-303-21 | SWITCH, TACTILE (DIRECT) | |
| S563 | 1-554-303-21 | SWITCH, TACTILE (MUSIC) | |
| S564 | 1-554-303-21 | SWITCH, TACTILE (T.P.O.) | |
| S565 | 1-554-303-21 | SWITCH, TACTILE (TOTAL EFFECT +) | |
| S566 | 1-554-303-21 | SWITCH, TACTILE (TOTAL EFFECT -) | |
| ⚠S901 | 1-572-009-11 | SELECTOR, VOLTAGE (VOLTAGE SELECTOR)<br>(E, EA, JE) | |

************************************************************

| | | | |
|---|---|---|---|
| * | A-4347-374-A | AUDIO BOARD, COMPLETE (AEP, UK) | |
| * | A-4347-375-A | AUDIO BOARD, COMPLETE (G, IT) | |
| * | A-4347-376-A | AUDIO BOARD, COMPLETE (E, AUS, EA, JE) | |

***********************************

< CAPACITOR >

| | | | |
|---|---|---|---|
| C101 | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V | |
| C102 | 1-163-109-00 | CERAMIC CHIP 47PF 5% 50V | |
| C103 | 1-164-232-11 | CERAMIC CHIP 0.01uF 50V | |
| C111 | 1-164-346-11 | CERAMIC CHIP 1uF 16V<br>(E, AUS, EA, JE) | |
| C112 | 1-164-182-11 | CERAMIC CHIP 0.0033uF 10% 50V<br>(E, AUS, EA, JE) | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## AUDIO

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C113 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C114 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| | | (E, AUS, EA, JE) | | | |
| C115 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| | | (E, AUS, EA, JE) | | | |
| C121 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C122 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C123 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C124 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C141 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C151 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C152 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C153 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C161 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| | | (E, AUS, EA, JE) | | | |
| C162 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C163 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| | | (E, AUS, EA, JE) | | | |
| C201 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C202 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C203 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C204 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C205 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C206 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C207 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C208 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| | | (E, AUS, EA, JE) | | | |
| C210 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C211 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C212 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C213 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C214 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% | 50V |
| C215 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C216 | 1-163-014-00 | CERAMIC CHIP | 0.0027uF | 10% | 50V |
| C217 | 1-163-010-11 | CERAMIC CHIP | 0.0012uF | 10% | 50V |
| C221 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C222 | 1-164-343-11 | CERAMIC CHIP | 0.056uF | 10% | 25V |
| C223 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C224 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C225 | 1-163-016-00 | CERAMIC CHIP | 0.0039uF | 10% | 50V |
| C226 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C227 | 1-163-007-11 | CERAMIC CHIP | 680PF | 10% | 50V |
| C231 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C232 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C233 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C234 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C251 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C252 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C253 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C254 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C255 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C256 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C257 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C258 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| | | (E, AUS, EA, JE) | | | |
| C261 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C262 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C263 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C264 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% | 50V |
| C265 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C266 | 1-163-014-00 | CERAMIC CHIP | 0.0027uF | 10% | 50V |
| C267 | 1-163-010-11 | CERAMIC CHIP | 0.0012uF | 10% | 50V |
| C271 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C272 | 1-164-343-11 | CERAMIC CHIP | 0.056uF | 10% | 25V |
| C273 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C274 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C275 | 1-163-016-00 | CERAMIC CHIP | 0.0039uF | 10% | 50V |
| C276 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C277 | 1-163-007-11 | CERAMIC CHIP | 680PF | 10% | 50V |
| C281 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C282 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C291 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C292 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C293 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C294 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C295 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C301 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C302 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C304 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C305 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C307 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C310 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C311 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C331 | 1-124-463-00 | ELECT | 0.1uF | 20% | 50V |
| C340 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C351 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C352 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C354 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C355 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C357 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C360 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C361 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C390 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C501 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C502 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C503 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C504 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |

## AUDIO

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C505 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C506 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C511 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C512 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C513 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C514 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C515 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C521 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C522 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C523 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C524 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C525 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C526 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C531 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C541 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C542 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C543 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C601 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C602 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C603 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C604 | 1-126-926-11 | ELECT | 1000uF | 20% | 10V |
| C605 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C607 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C651 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C652 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C653 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C654 | 1-126-926-11 | ELECT | 1000uF | 20% | 10V |
| C655 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C657 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN201 | 1-566-128-11 | CONNECTOR, BOARD TO BOARD 10P |
| CN202 | 1-568-437-11 | SOCKET, CONNECTOR 7P |
| CN203 | 1-568-443-11 | SOCKET, CONNECTOR 13P |
| CN204 | 1-573-826-11 | CONNECTOR, BOARD TO BOARD 12P |
| CN205 | 1-573-826-11 | CONNECTOR, BOARD TO BOARD 12P |

< DIODE >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| D231 | 8-719-801-78 | DIODE | 1SS184 |
| D291 | 8-719-801-78 | DIODE | 1SS184 |
| D292 | 8-719-801-78 | DIODE | 1SS184 |
| D341 | 8-719-801-78 | DIODE | 1SS184 |
| D342 | 8-719-801-78 | DIODE | 1SS184 |
| D501 | 8-719-801-78 | DIODE | 1SS184 |
| D502 | 8-719-801-78 | DIODE | 1SS184 |
| D503 | 8-719-801-78 | DIODE | 1SS184 |
| D504 | 8-719-801-78 | DIODE | 1SS184 |
| D511 | 8-719-801-78 | DIODE | 1SS184 |
| D512 | 8-719-801-78 | DIODE | 1SS184 |
| D541 | 8-719-801-78 | DIODE | 1SS184 |
| D601 | 8-719-801-78 | DIODE | 1SS184 |

< IC >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| IC101 | 8-759-636-55 | IC | M5218AFP | |
| IC102 | 8-759-516-43 | IC | CD4053BCM | (E, AUS, EA, JE) |
| IC103 | 8-759-516-39 | IC | CD4051BCM | |
| IC201 | 8-759-636-57 | IC | CXA1492Q | |
| IC301 | 8-759-636-55 | IC | M5218AFP | |
| IC302 | 8-759-516-43 | IC | CD4053BCM | |
| IC303 | 8-759-516-41 | IC | CD4052BCM | |
| IC501 | 8-759-074-78 | IC | uPD78134GF-051-3B9 | |
| IC502 | 8-759-500-31 | IC | X24C01P | |
| IC503 | 8-759-516-41 | IC | CD4052BCM | |
| IC504 | 8-759-991-11 | IC | XR1091DCP | |
| IC601 | 8-759-636-55 | IC | M5218AFP | |

< JUMPER RESISTOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| JR1 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR2 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR3 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| JR4 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| JR5 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR6 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR7 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR8 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR501 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| JR503 | 1-216-295-00 | METAL CHIP<br>(AEP, UK, G, IT) | 0 | 5% | 1/10W |
| JR504 | 1-216-295-00 | METAL CHIP<br>(E, AUS, EA, JE) | 0 | 5% | 1/10W |

< TRANSISTOR >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| Q231 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q232 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q291 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q292 | 8-729-600-22 | TRANSISTOR | 2SA1235-F |
| Q311 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q341 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q342 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q361 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q391 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q501 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |
| Q502 | 8-729-805-67 | TRANSISTOR | 2SA1342 |
| Q504 | 8-729-805-67 | TRANSISTOR | 2SA1342 |
| Q506 | 8-729-805-43 | TRANSISTOR | 2SC3396 |
| Q507 | 8-729-805-40 | TRANSISTOR | 2SC3900 |
| Q601 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF |

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| Q651 | 8-729-620-06 | TRANSISTOR | 2SC3052-EF | | | |
| | | < RESISTOR > | | | | |
| R101 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R102 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R111 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R112 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R113 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R114 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R121 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R122 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R130 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R131 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R132 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R133 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R134 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W | |
| R135 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R136 | 1-216-071-00 | METAL CHIP | 8.2K | 5% | 1/10W | |
| R137 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W | |
| R138 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R141 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R151 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R152 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R161 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R162 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R163 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R164 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R201 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W | |
| R202 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R203 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R204 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R205 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R206 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R207 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R208 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R209 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R210 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R211 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R212 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R213 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R214 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R215 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R216 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R217 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R231 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R232 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W | |
| R233 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R234 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R235 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R236 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R237 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R238 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R240 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| R251 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W | |
| R252 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| | | (E, AUS, EA, JE) | | | | |
| R253 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R254 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R255 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R256 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R261 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R262 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R263 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R264 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R265 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R266 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R267 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R281 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R282 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W | |
| R283 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R291 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R292 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R301 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R302 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W | |
| R303 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| R304 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W | |
| R308 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W | |
| R309 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R312 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W | |
| R313 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W | |
| R315 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R316 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R331 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R341 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R342 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R343 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R344 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R345 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R351 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R352 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W | |
| R353 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| R354 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W | |

## AUDIO BRIDGE CONNECTOR (A) CONNECTOR (B) JACK SPEAKER TRANSFORMER (A) TRANSFORMER (B) TRANSFORMER (C)

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R358 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R359 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R362 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R363 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R365 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R366 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R391 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R392 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R393 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R501 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R502 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R503 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R504 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R505 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R506 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R507 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R508 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R509 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R510 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R511 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R512 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R513 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W |
| R514 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W |
| R521 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R522 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R523 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R524 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R525 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R526 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R527 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R531 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R532 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R533 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R534 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R535 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R536 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R537 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R538 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R541 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R542 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R543 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R601 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R602 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R603 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R604 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R605 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R606 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R607 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R608 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R651 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R652 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R653 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R654 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R655 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R656 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R657 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R658 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |

< VIBRATOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| X501 | 1-577-364-11 | VIBRATOR, CERAMIC (12MHz) |

**********************************************************

| Ref. No. | Part No. | Description |
|---|---|---|
| * | 1-642-438-11 | BRIDGE BOARD |
| | | ************ |
| * | 1-642-439-11 | CONNECTOR (A) BOARD |
| | | ******************* |
| * | 1-642-440-11 | CONNECTOR (B) BOARD |
| | | ******************* |
| * | 1-642-436-11 | JACK BOARD |
| | | ********** |
| * | 1-644-352-11 | SPEAKER BOARD |
| | | ************* |
| * | 1-642-441-11 | TRANSFORMER (A) BOARD |
| | | ********************* |
| * | 1-642-442-11 | TRANSFORMER (B) BOARD |
| | | ********************* |
| * | 1-642-443-11 | TRANSFORMER (C) BOARD |
| | | ********************* |

< CAPACITOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C401 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C451 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C895 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (G, IT) |
| C896 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (G, IT) |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN101 | 1-563-311-11 | CONNECTOR, BOARD TO BOARD 10P |
| CN102 | 1-573-826-11 | CONNECTOR, BOARD TO BOARD 12P |
| * CN311 | 1-573-844-31 | CONNECTOR, BOARD TO BOARD 12P |
| * CN312 | 1-573-844-31 | CONNECTOR, BOARD TO BOARD 12P |
| * CN401 | 1-573-844-11 | CONNECTOR, BOARD TO BOARD 12P |
| * CN402 | 1-573-844-11 | CONNECTOR, BOARD TO BOARD 12P |
| * CN403 | 1-573-844-11 | CONNECTOR, BOARD TO BOARD 12P |
| CN404 | 1-568-860-11 | SOCKET, CONNECTOR 17P |
| * CN405 | 1-568-850-11 | SOCKET, CONNECTOR 7P |
| * CN411 | 1-580-739-11 | SOCKET, CONNECTOR 15P (SYSTEM CONTROL 1) |
| * CN412 | 1-580-740-11 | SOCKET, CONNECTOR 17P (SYSTEM CONTROL 2) |
| CN703 | 1-563-311-11 | CONNECTOR, BOARD TO BOARD 10P |
| CN821 | 1-573-094-11 | SOCKET, CONNECTOR 13P |
| CN822 | 1-573-094-11 | SOCKET, CONNECTOR 13P |
| * CN911 | 1-580-939-11 | SOCKET, CONNECTOR 4P |

## BRIDGE CONNECTOR (A) CONNECTOR (B) JACK SPEAKER TRANSFORMER (A) TRANSFORMER (B) TRANSFORMER (C)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * CN912 | 1-580-939-11 | SOCKET, CONNECTOR 4P (E, EA, JE) | |
| CN913 | 1-569-493-11 | SOCKET, CONNECTOR 7P | |
| * CN914 | 1-569-502-11 | PIN, CONNECTOR 7P | |
| CN921 | 1-569-496-11 | SOCKET, CONNECTOR 10P | |
| * CN922 | 1-569-502-11 | PIN, CONNECTOR 7P | |
| CN931 | 1-569-493-11 | SOCKET, CONNECTOR 7P | |
| CN932 | 1-569-493-11 | SOCKET, CONNECTOR 7P | |

< JACK >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| J401 | 1-565-304-11 | JACK, PIN 4P (ADAPTOR) (E, AUS, EA, JE) | |
| J402 | 1-569-662-11 | JACK, PIN 1P (SUPER WOOFER OUT) | |
| J701 | 1-568-572-11 | JACK, PIN 2P (SURROUND SPEAKER)<br>(UK, E, AUS, EA, JE) | |

< RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R401 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R451 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R895 | 1-247-727-11 | CARBON 10 5% 1/2W | (G, IT) |
| R896 | 1-247-727-11 | CARBON 10 5% 1/2W | (G, IT) |

< TERMINAL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| TB701 | 1-537-276-21 | TERMINAL BOARD (SPEAKER) | |

************************************************************

MISCELLANEOUS
*************

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 7 | 1-690-994-11 | WIRE (FLAT TYPE) (17 CORE) | |
| 25 | 1-690-993-11 | WIRE (FLAT TYPE) (13 CORE) | |
| 27 | 1-690-992-11 | WIRE (FLAT TYPE) (7 CORE) | |
| 31 | 1-590-240-11 | WIRE, FLAT TYPE (7 CORE) | |
| 33 | 1-535-706-11 | PLUG, JUMPER (E, AUS, EA, JE) | |
| ⚠F901 | 1-532-285-00 | FUSE, TIME-LAG (T1.25A) | |
| ⚠F902 | 1-532-286-00 | FUSE, TIME-LAG (T2.5A) (E, EA, JE) | |
| ⚠PT901 | 1-450-896-11 | TRANSFORMER, POWER (AEP, G, IT) | |
| ⚠PT901 | 1-450-897-11 | TRANSFORMER, POWER (UK, AUS) | |
| ⚠PT901 | 1-450-898-11 | TRANSFORMER, POWER (E, EA, JE) | |

************************************************************

*************************

## HARDWARE LIST

*************************

| | | | |
|---|---|---|---|
| #1 | 7-682-547-04 | SCREW +BVTT | 3X6 (S) |
| #2 | 7-685-647-79 | SCREW +BVTP | 3X10 TYPE2 N-S |
| #3 | 7-685-645-79 | SCREW +BVTP | 3X6 TYPE2 IT-3 |
| #4 | 7-682-547-09 | SCREW +BVTT | 3X6 (S) |
| #5 | 7-685-650-79 | SCREW +BVTP | 3X16 TYPE2 IT-3 |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

RXD 271

# TA-H2700

**SONY®**
# SERVICE MANUAL

6033

*AEP Model*
*UK Model*
*E Model*
*Australian Model*
*Tourist Model*

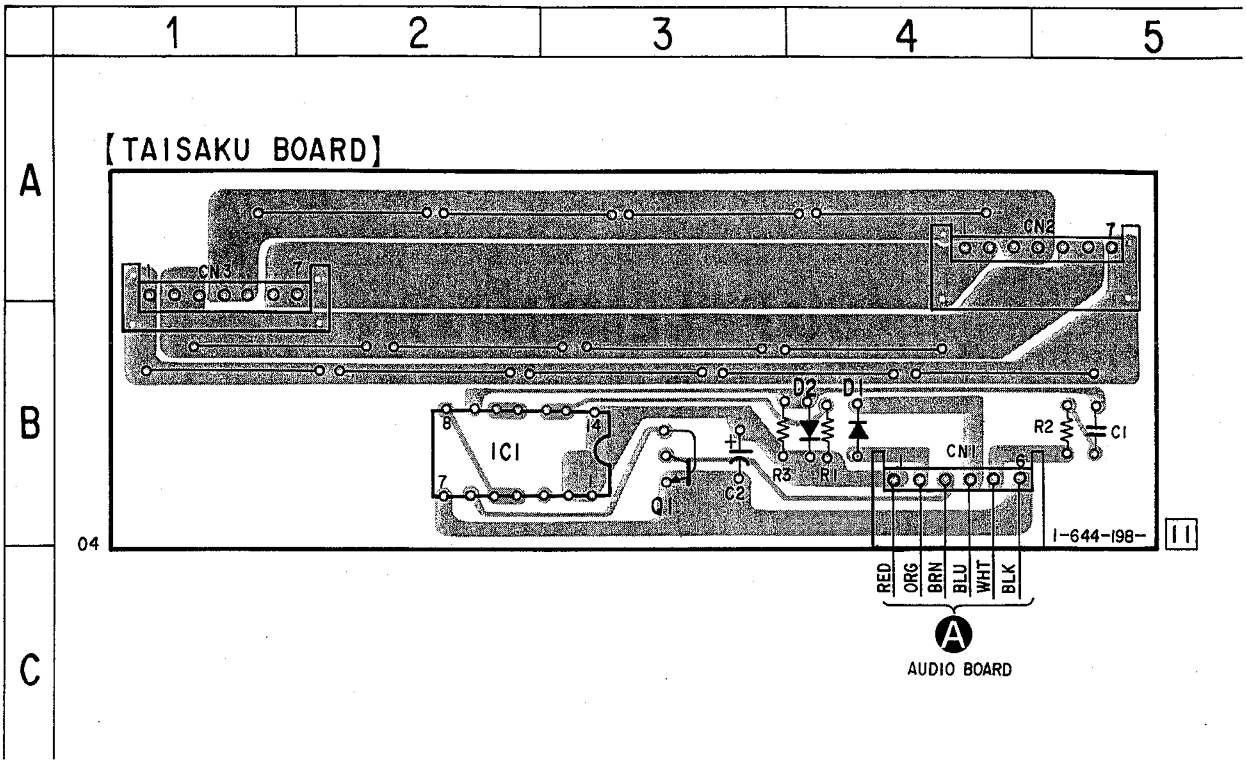
## SUPPLEMENT-1

File this supplement with the service manual.

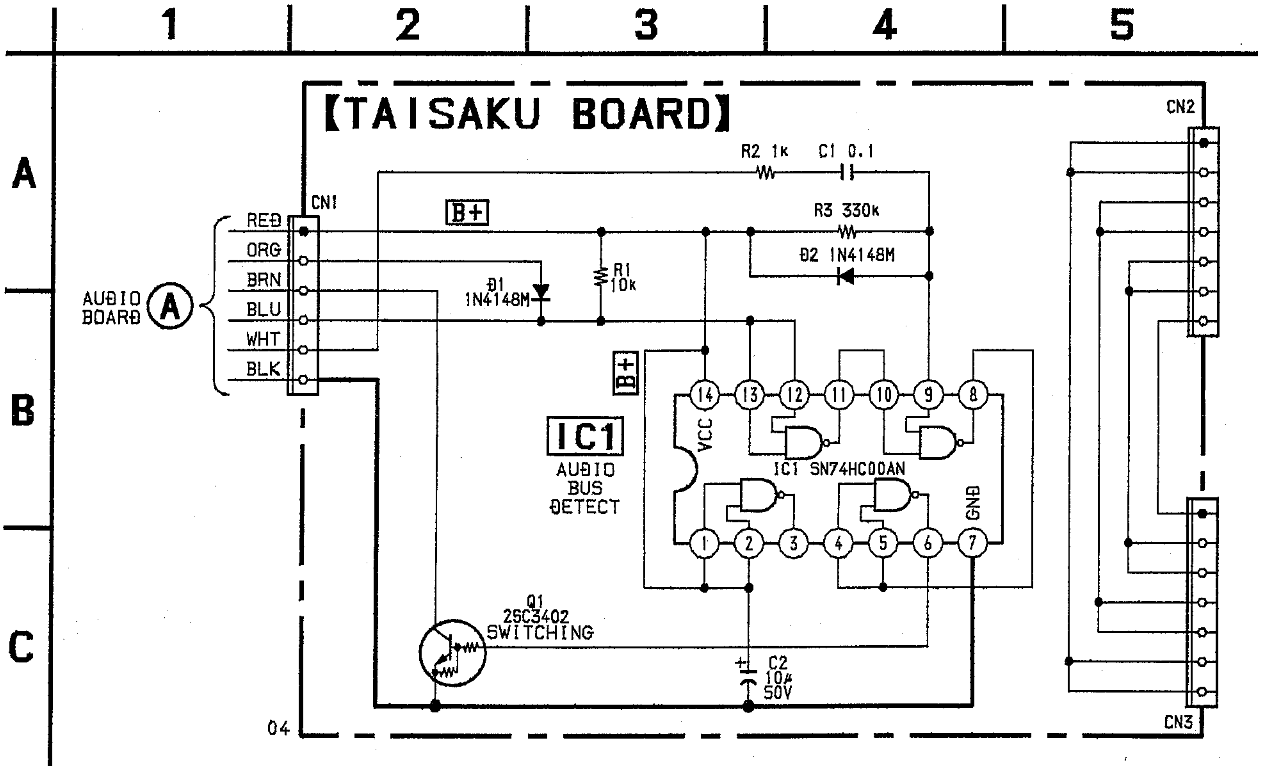
**Subject:** Add the TAISAKU Board

*This TAISAKU Board correspond to TRANSFORMER (C) BOARD that is showed on the Service Manual.

## 1. PRINTED WIRING BOARD—TAISAKU SECTION—

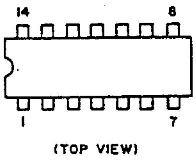

1
2
3
4
5
A
B
C
【TAISAKU BOARD】
CN3
CN2
IC1
D2
D1
R3
R1
C2
Q1
R2
C1
CN1
04
1-644-198- 11
RED
ORG
BRN
BLU
WHT
BLK
A
AUDIO BOARD

## 2. SCHEMATIC DIAGRAM—TAISAKU SECTION—

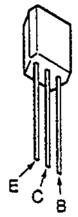

1
2
3
4
5
A
B
C
【TAISAKU BOARD】
CN1
CN2
CN3
R2 1k
C1 0.1
R3 330k
D2 1N4148M
B+
D1 1N4148M
R1 10k
AUDIO BOARD
A
RED
ORG
BRN
BLU
WHT
BLK
B+
IC1
AUDIO BUS DETECT
IC1 SN74HC00AN
VCC
GND
14
13
12
11
10
9
8
1
2
3
4
5
6
7
Q1 2SC3402 SWITCHING
C2 10μ 50V
04

## 3. SEMICONDUCTOR LEAD LAYOUTS

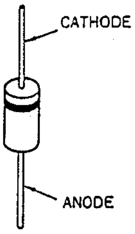
**SN74HC00AN**


14
8
1
7
(TOP VIEW)

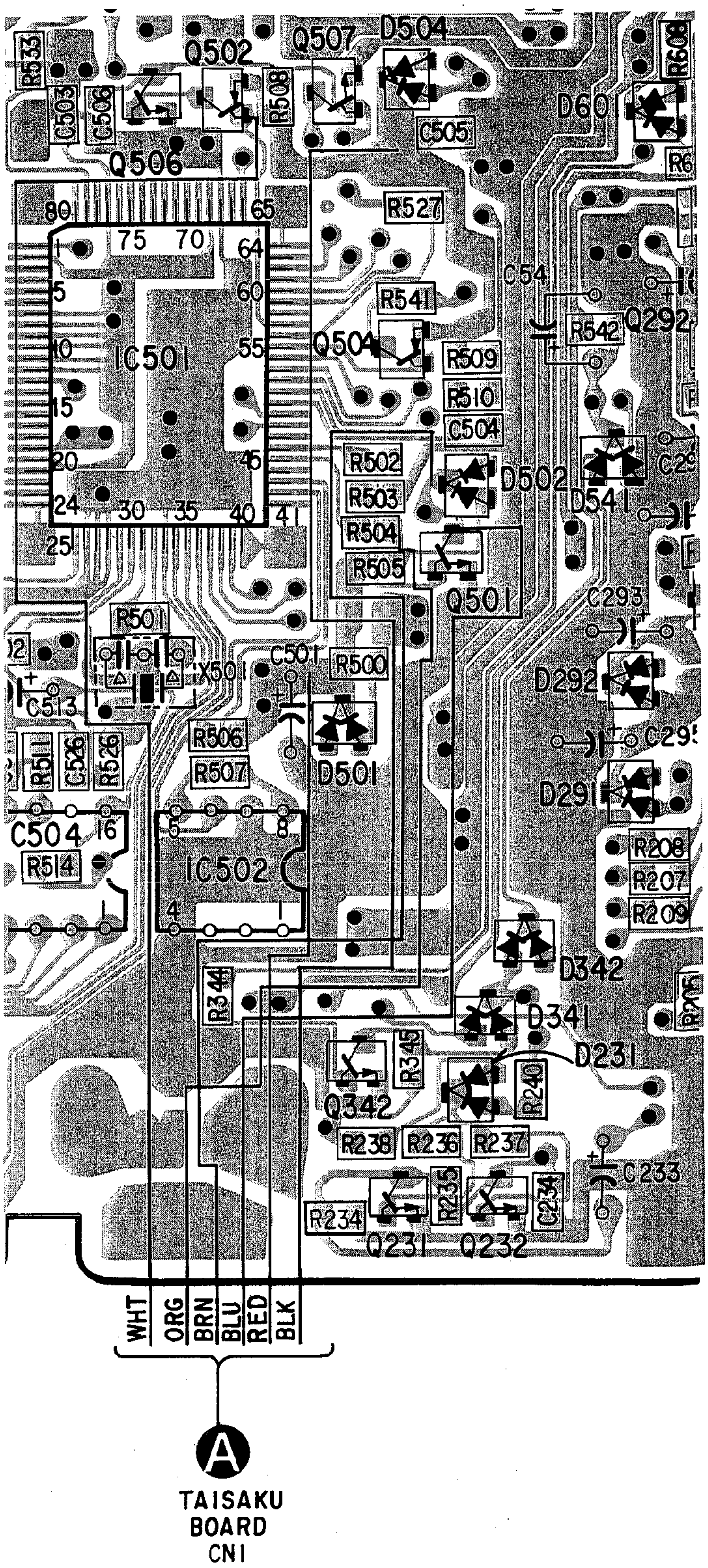
**DTC114ES**



**1N4148M**


CATHODE
ANODE

## 4. PRINTED WIRING BOARD—AUDIO SECTION—


R533
C503
C506
Q502
Q507
D504
R508
C505
Q506
D60
R608
R6
80
65
75
70
64
60
55
45
41
40
35
30
24
25
20
15
10
5
1
IC501
R527
C54
R541
R542
Q292
Q504
R509
R510
C504
R502
R503
D502
D541
R504
R505
Q501
C293
R501
X501
C501
R500
C513
D292
R511
C526
R526
R506
R507
D501
C295
D291
C504
16
R514
5
8
IC502
4
1
R208
R207
R209
D342
R344
D341
R205
R345
D231
R240
Q342
R238
R236
R237
C233
R234
R235
C234
Q231
Q232
WHT
ORG
BRN
BLU
RED
BLK
A
TAISAKU
BOARD
CN1

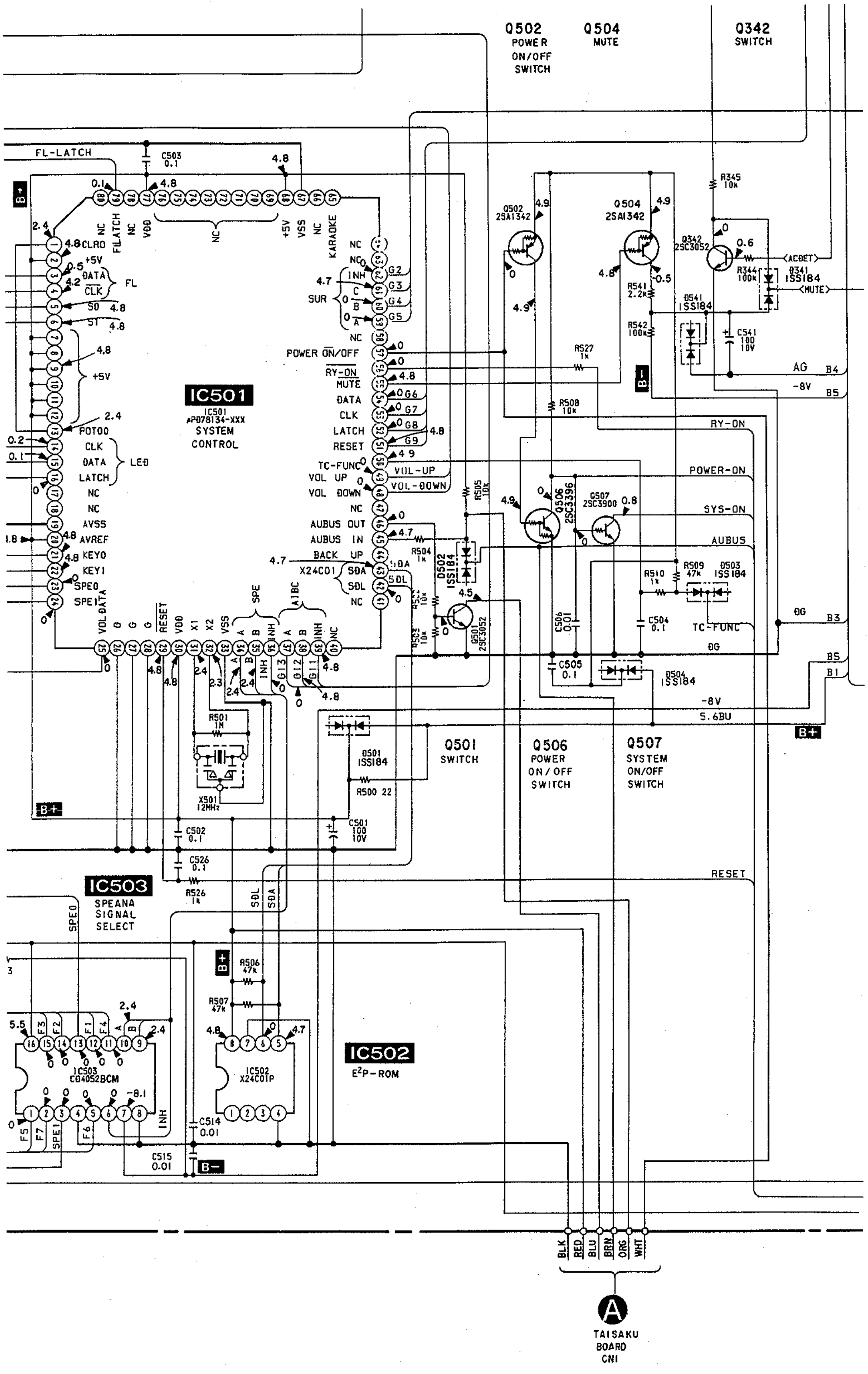
**Note on Printed Wiring Board:**

- ○— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ▨ : Pattern on the side which is seen.

**Note on Schematic Diagram:**

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- [B+] : B+ Line

## 5. SCHEMATIC DIAGRAM—AUDIO SECTION—


Q502
POWER ON/OFF SWITCH
Q504
MUTE
Q342
SWITCH
FL-LATCH
C503 0.1
IC501
IC501 μPD78134-XXX
SYSTEM CONTROL
CLRD
+5V
DATA
CLK
FL
S0
S1
POTOO
CLK
DATA
LATCH
LED
NC
AVSS
AVREF
KEY0
KEY1
SPE0
SPE1
VOL DATA
RESET
VDD
X1
X2
VSS
SPE
AIBC
INH
KARAOKE
SUR
POWER ON/OFF
RY-ON
MUTE
DATA
CLK
LATCH
RESET
TC-FUNC
VOL UP
VOL DOWN
VOL-UP
VOL-DOWN
AUBUS OUT
AUBUS IN
BACK UP
X24C01
SDA
SDL
G2
G3
G4
G5
G6
G7
G8
G9
G11
G12
G13
Q502 2SA1342
Q504 2SA1342
Q342 2SC3052
R345 10k
R344 100k
D341 1SS184
ACDET
MUTE
R541 2.2k
R542 100k
D541 1SS184
C541 100 10V
R527 1k
R508 10k
AG
-8V
B4
B5
RY-ON
POWER-ON
SYS-ON
AUBUS
Q506 2SC3396
Q507 2SC3900
R505 10k
R504 1k
D502 1SS184
R509 47k
D503 1SS184
R510 1k
C506 0.01
C504 0.1
TC-FUNC
BG
B3
Q501 2SC3052
R503 10k
C505 0.1
D504 1SS184
B1
-8V
5.6BU
B+
B-
R501 1M
X501 12MHz
D501 1SS184
R500 22
C501 100 10V
C502 0.1
C526 0.1
R526 1k
Q501
SWITCH
Q506
POWER ON/OFF SWITCH
Q507
SYSTEM ON/OFF SWITCH
RESET
IC503
SPEANA SIGNAL SELECT
SPE0
SDL
SDA
R506 47k
R507 47k
IC502
E²P-ROM
IC503 CD4052BCM
IC502 X24C01P
F1
F2
F3
F4
F5
F6
F7
SPE1
INH
C514 0.01
C515 0.01
BLK
RED
BLU
BRN
ORG
WHT
A
TAISAKU BOARD CN1

# TAISAKU

## 6. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | A-4347-934-A | MOUNTED PCB, TAISAKU<br>******************** | |
| | | < CAPACITOR > | |
| C1 | 1-136-165-00 | FILM 0.1uF 5% 50V | |
| C2 | 1-124-907-11 | ELECT 10uF 20% 50V | |
| | | < CONNECTOR > | |
| CN1 | 1-564-521-11 | PIN, CONNECTOR 6P | |
| CN2 | 1-569-493-11 | SOCKET, CONNECTOR 7P | |
| CN3 | 1-569-493-11 | SOCKET, CONNECTOR 7P | |
| | | < DIODE > | |
| D1 | 8-719-987-63 | DIODE 1N4148M | |
| D2 | 8-719-987-63 | DIODE 1N4148M | |
| | | < IC > | |
| IC1 | 8-759-916-12 | IC SN74HC00AN | |
| | | < TRANSISTOR > | |
| Q1 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| | | < RESISTOR > | |
| R1 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R2 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R3 | 1-247-891-00 | CARBON 330K 5% 1/4W | |

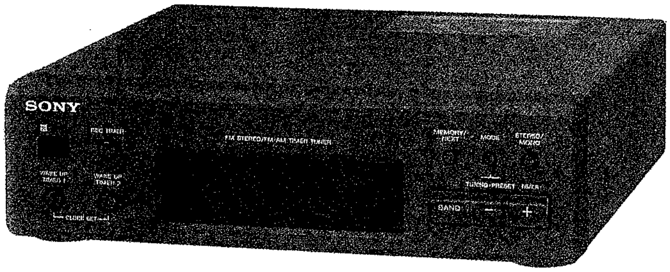
15

RA360

# ST-H3700

# SERVICE MANUAL

*AEP Model*
*UK Model*



This set is the tuner
section in MHC-2700/3700

## SPECIFICATIONS

| | |
|---|---|
| System | FM stereo, FM/AM superheterodyne tuner |
| **FM tuner section** | |
| Tuning range | 87.5 — 108 MHz |
| Antenna terminals | 75 ohm unbalanced |
| Intermediate frequency | 10.7 MHz |
| **AM tuner section** | |
| Tuning range | AEP, UK, Germany model:<br>MW: 531—1,602kHz<br>LW: 153—279kHz<br>Italian model:<br>MW: 522—1,611kHz<br>LW: 144—288kHz |
| Antenna | AM loop antenna,<br>External antenna terminals |
| Intermediate frequency | 450 kHz |

Design and specifications subject to change without notice.

## TABLE OF CONTENTS

*Section* *Title* *Page*

**1. SERVICING NOTES**

1-1. Supply of Power During Services ................2
1-2. Service Mode to Check Timer ON-OFF ..........2
1-3. Service Mode to Check FL Tube and Key Input ..3
1-4. How to Forcefully Turn Power ON ............3

**2. GENERAL** ........................................4
Parts Identification ..................................4
Clock Setting ..........................................4
Tuning in Automatically ..............................5
Tuning in Manually ...................................5
Storing Stations .......................................6
To Tune in a Preset Station ........................6

**3. ELECTRICAL ADJUSTMENTS** ....................7

**4. DIAGRAMS**

4-1. Block Diagram ..................................9
4-2. Schematic Diagram —Tuner Section— ............13
4-3. Printed Wiring Boards —Tuner Section— ........15
4-4. Schematic Diagram —Display Section— ..........17
4-5. Printed Wiring Board —Display Section— ........19
4-6. Pin Description ...................................21
4-7. Semiconductor Lead Layouts ....................22

**5. EXPLODED VIEW** ..............................23

**6. ELECTRICAL PARTS LIST** ......................24

MICROFILM

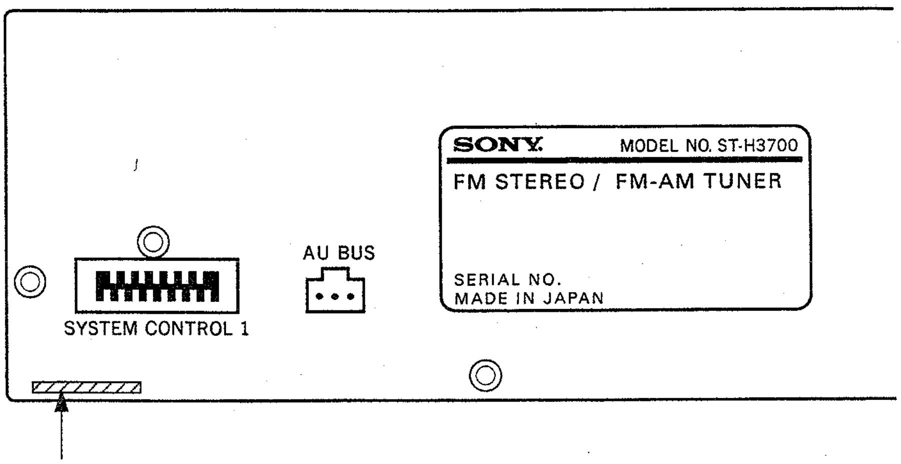
**FM STEREO/FM-AM TUNER**

**SONY**®

5982

## MODEL IDENTIFICATION

### —BACK PANEL—


SONY
MODEL NO. ST-H3700
FM STEREO / FM-AM TUNER
SERIAL NO.
MADE IN JAPAN
AU BUS
SYSTEM CONTROL 1

4-948-729-01 (AE) : AEP, UK model
4-948-729-11 (IT) : Italian (IT) model
4-948-729-21 (AE4): Germany (G) model

# SECTION 1
# SERVICING NOTES

### 1-1. SUPPLY OF POWER DURING SERVICES

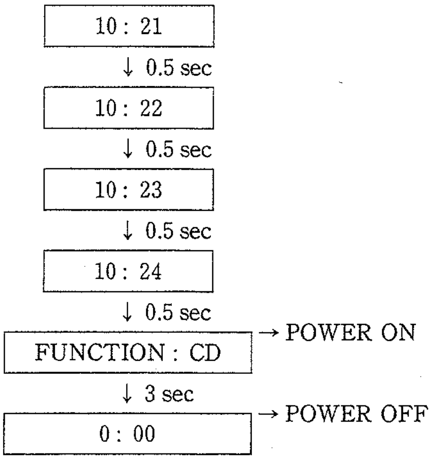
Because the equipment is not provided with any power supply, it is operated with power supplied from the amplifier TA-H2700/H3700 used in the series. The equipment requires the following 4 types of voltages. Therefore, connect the equipment to TA-H2700/H3700 for services such as repairing with power supplied, because it will be too complicated to supply these voltages individually.

| VOLTAGE | MAJOR CIRCUIT IN USE |
|---|---|
| AC 3.9V | FL tube filament voltage (VF) |
| DC −24V | Display controller IC701 grid voltage (VG) |
| DC 5.6V | Display controller IC701, Tuner PLL IC81 Vcc |
| DC 12V | Tuner RF, FM/AM DET IC21 Vcc |

### 1-2. SERVICE MODE TO CHECK TIMER ON-OFF

It is possible to check whether the timer normally functions while being connected with an amplifier.

(1) Connect the equipment to the amplifier TA-H2700/H3700 and set the SYSTEM POWER switch to STANDBY state.
(2) Set the time of the tuner to any time.
(3) Press 3 switches "BAND", "−" and "MEMORY/NEXT" at the same time (while pressing "BAND" and "−" beforehand, finally press "MEMORY/NEXT")
(4) FL display tube


10 : 21
↓ 0.5 sec
10 : 22
↓ 0.5 sec
10 : 23
↓ 0.5 sec
10 : 24
↓ 0.5 sec
FUNCTION : CD
→ POWER ON
↓ 3 sec
0 : 00
→ POWER OFF

(5) Completion

**Note :** After completion of the checking above, data preset in the memory IC702 is erased while resetting the memory to the next page state upon shipping from the works, so be sure to recover the same frequency as that before the repairing.

**· Frequencies initially preset**

| | AEP, UK, Germany model | | | Italian model | | |
|---|---|---|---|---|---|---|
| | FM | MW | LW | FM | MW | LW |
| 1 | 87.5MHz | 531kHz | 153kHz | 87.5MHz | 522kHz | 144kHz |
| 2 | 88.0MHz | 603kHz | 162kHz | 88.0MHz | 603kHz | 162kHz |
| 3 | 98.0MHz | 999kHz | 216kHz | 98.0MHz | 999kHz | 216kHz |
| 4 | 100.0MHz | 1404kHz | 270kHz | 100.0MHz | 1404kHz | 270kHz |
| 5 | 108.0MHz | 1602kHz | 279kHz | 108.0MHz | 1611kHz | 288kHz |
| 6—20 | *1 | *2 | *2 | *1 | *2 | *2 |

*1 The same frequency values are set for the preset memory No. 6—No. 10, No. 11—No. 15 and No. 16—No. 20 as for No. 1—No. 5 respectively.

*2 The same frequency values are set for the preset memory No. 6—No. 10 as for No. 1—No. 5.

## 1-3. SERVICE MODE TO CHECK FL TUBE AND KEY INPUT

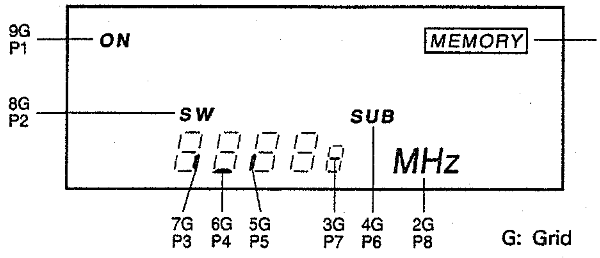
It is possible to check FL tube all ON grid, segment and key input.

(1) Connect the equipment to the amplifier TA-H2700/H3700 and remove the AC cord of the amplifier out of the AC receptacle.

(2) While pressing 3 switches "BAND", "−" and "MEMORY/NEXT" at the same time, insert the AC cord of the amplifier into the receptacle.

(3) Thus, all FL display tubes light up. By pressing "+" or "TIMER CONTROL" in this state, partial lighting or key input checking, respectively, is effected.

Partial lighting : Indicates the mode to check complete connection between the grid and segment of the FL tube. The condition is normal when the following indication is effected. By pressing "+" or "−" in the partial lighting mode, the status returns to key input checking or all ON in (3), respectively.



G: Grid
P: Segment

Key input checking : Shows the mode to check key input into 9 keys on the front panel. "0" is indicated at first, and every time a different key is pressed, indicated number is increased. After completion of pressing all 9 keys, "PASS" is indicated.
(Once a key is pressed, pressing it again is rejected.)

(4) After the completion of the checking, the equipment recovers normal operation by once removing the AC cord and inserting it again into the AC receptacle.

## 1-4. HOW TO FORCEFULLY TURN POWER ON

The equipment is not provided with any power switch. Therefore, power ON/OFF is controlled in the amplifier side. However, even without an amplifier, power is supplyable to the equipment according to the following methods provided any type of power is available, e.g. using a special jig or supplying the 4 types of voltages individually.
(When power is supplied from the amplifier, power is turned ON only for the tuner.)

(1) Supply power.

(2) Press 3 switches "STEREO/MONO", "−" and "MEMORY/NEXT" at the same time.
(Press "STEREO/MONO" and "−" beforehand, and finally press "MEMORY/NEXT".)

However, when the equipment is started up by the methods above, service modes TIMER ON/OFF and FL tube and key input checking are not operable.

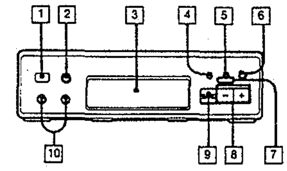
# SECTION 2
# GENERAL

This section is extracted from instruction manual.

## Parts Identification

Refer to the pages indicated in ● for use of the buttons.

### Tuner Section A



- [1] Remote control sensor
- [2] REC TIMER button (53)
- [3] Display window
- [4] MEMORY/NEXT button ⑫ ㉘ (52)
- [5] MODE button ㉖ ㉙
- [6] STEREO/MONO (stereo/monaural) button ㉗
- [7] TUNING/PRESET indicators
- [8] TUNING · PRESET/TIMER –/+ buttons
- [9] BAND selector ㉖
- [10] WAKE UP TIMER 1, 2 /CLOCK SET buttons ⑫ ㉕

## Clock Setting

### Setting the Clock

**Example:** Set to 9:25 in the morning.

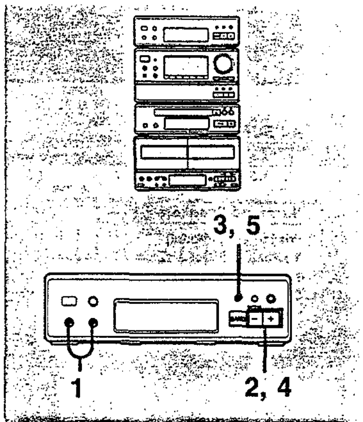
**1** **Press WAKE UP TIMER 1 and 2 at the same time.**

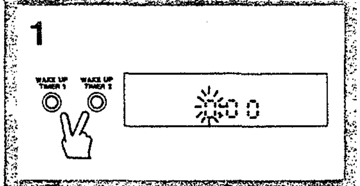
**2** **Set the hour with the – or + button.**

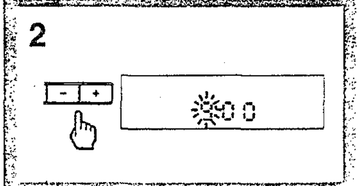
**3** **Press MEMORY/NEXT.**

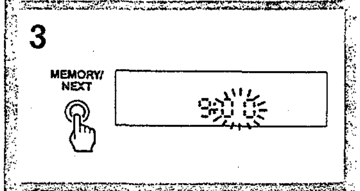
**4** **Set the minute with the – or + button.**

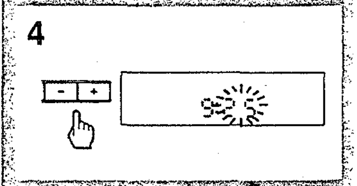
**5** **Press MEMORY/NEXT.**
The clock starts operating.

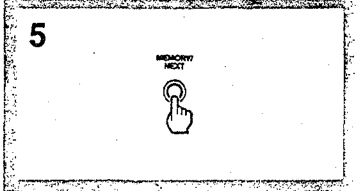












---

**When a power interruption occurs**
The clock, timer and Wake up Volume settings are all erased, and "0:00" will flash on the display.

**To change the frequency display to the time display**
Press CLOCK DISP. on the remote commander. Press it again to change to the frequency display.

# Radio

The automatic tuning allows you to receive stations whose signal is strong enough. When the signal is too weak, use the manual tuning.

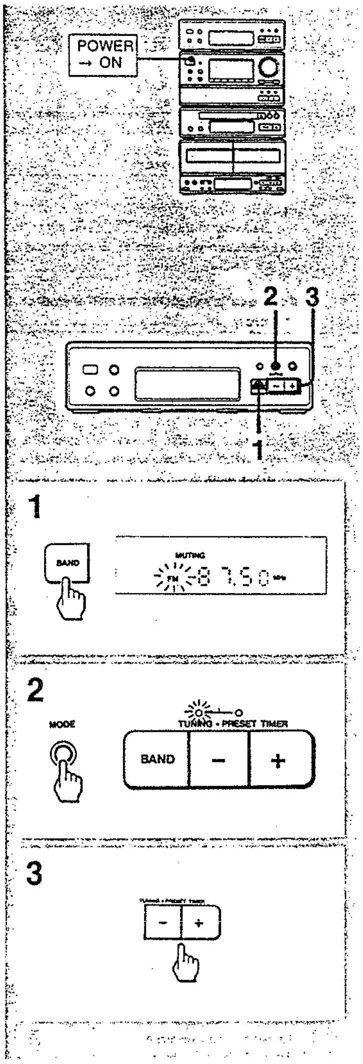
## Tuning in Automatically

1 **Press BAND repeatedly until the desired band appears.**
As you press BAND, the band changes as follows:
FM → MW → LW

2 **Press MODE so that the TUNING indicator lights up.**

3 **Keep – or + depressed for more than 1 second.**
"AUTO" appears on the display and the unit tunes in a station automatically.

**Repeat step 3 until the desired station appears.**


POWER
→ ON
2
3
1
1
MUTING
FM 87.50 MHz
BAND
2
MODE
TUNING • PRESET TIMER
BAND
–
+
3
TUNING • PRESET TIMER
–
+

# Radio

## Tuning in Manually

1 **Press BAND repeatedly until the desired band appears.**

2 **Press MODE so that the TUNING indicator lights up.**

3 **Press – or + repeatedly until the desired station appears.**

### Indicator on the display

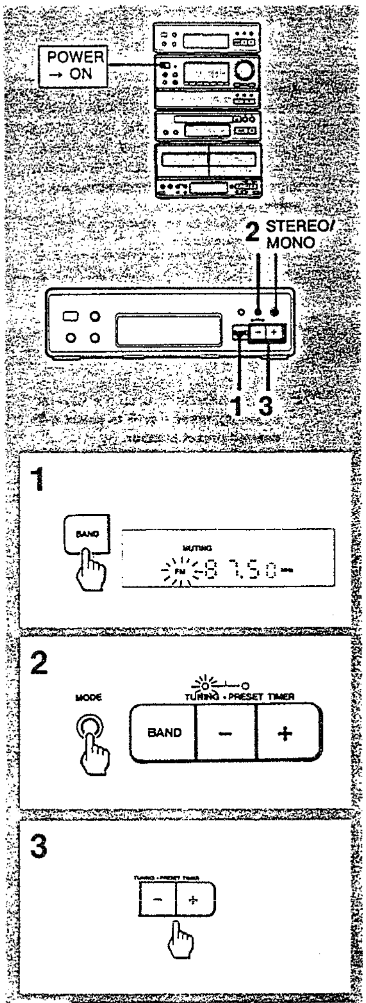
| | |
|---|---|
| TUNED: | Appears when a station with sufficient signal strength is tuned in. |
| STEREO: | Appears when an FM stereo program with sufficient signal strength is received. |

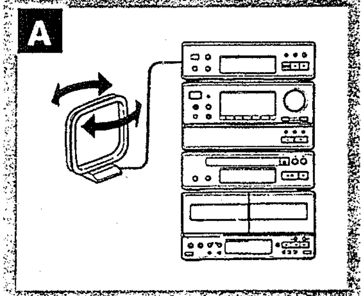
### Antenna adjustment A

For MW and LW reception, find the best location for the supplied AM loop antenna.

### When an FM program is noisy or hard to receive

Press STEREO/MONO so that "MONO" appears in the display. There will be no stereo effect, but the reception will be improved. Press the button again to restore the stereo effect.


POWER
→ ON
2 STEREO/
MONO
1
3
1
BAND
MUTING
FM 87.50 MHz
2
MODE
TUNING • PRESET TIMER
BAND
–
+
3
TUNING • PRESET TIMER
–
+



# Radio

## Storing Stations

You can store up to 20 FM stations, 10 MW stations and 10 LW stations in a desired sequence, so that you can tune in the stored station directly by entering the preset station number.
This operation is not possible with the remote commander.

1 **Tune in the desired station.**

2 **Press MEMORY/NEXT.**
"MEMORY" and the preset station numbers appear on the display.

3 **While "MEMORY" is on (for several seconds), press – or + to select a desired preset number.**

4 **Press MEMORY/NEXT.**
"MEMORY" disappears, and the station is stored.

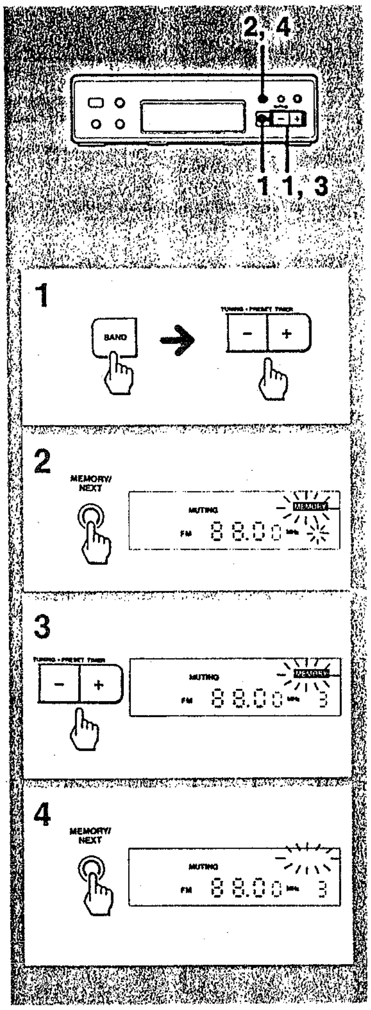
**Repeat step 1 to 4 for each station to be stored.**

---

**If you cannot store a station successfully**
Press MEMORY/NEXT again so that "MEMORY" appears, and then proceed with steps 3 and 4 above.
Be sure to operate while "MEMORY" is on (about 4 seconds).

**When you have selected the wrong preset station number**
Press MEMORY/NEXT again and then proceed with the steps 3 and 4.

**To change the preset station**
Store a desired station at the desired preset number by proceeding with the above steps.
The station previously preset will be erased.
Erasing only is not possible.


2, 4
1
1, 3
1
BAND
TUNING • PRESET TIMER
2
MEMORY/NEXT
MUTING
FM 88.00
MEMORY
3
TUNING • PRESET TIMER
FM 88.00 3
4
MEMORY/NEXT
FM 88.00 3

# Radio

## To Tune in a Preset Station

**Notes:**
- When you use the remote commander for the following operations make sure that the display of the remote commander shows "TUNER". If not, press TUNER on the remote commander.
- You cannot operate the buttons on the lid if the lid is open.

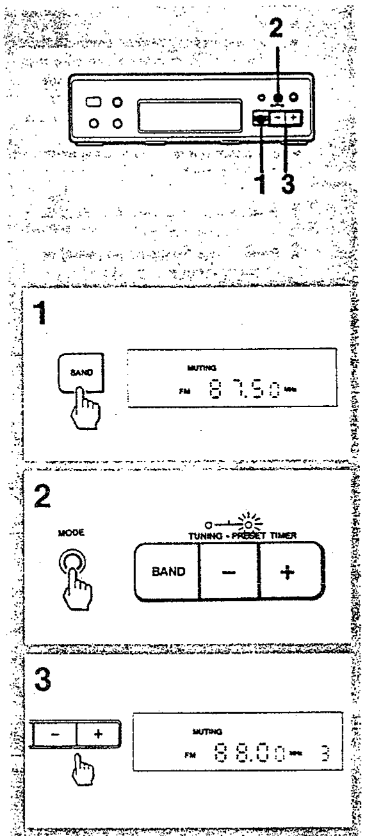
1 **Press BAND to select a desired band.**

2 **Press MODE so that the PRESET indicator lights up.**

3 **Press – or + to select the desired preset station number.**

### To tune in a preset station directly

Possible only with the remote commander.
1 Press BAND to select a desired band.
2 Press the numeric buttons to select the desired preset station number.


2
1
3
1
BAND
MUTING
FM 87.50
2
MODE
TUNING • PRESET TIMER
BAND
3
MUTING
FM 88.00 3

# SECTION 3
# ELECTRICAL ADJUSTMENTS

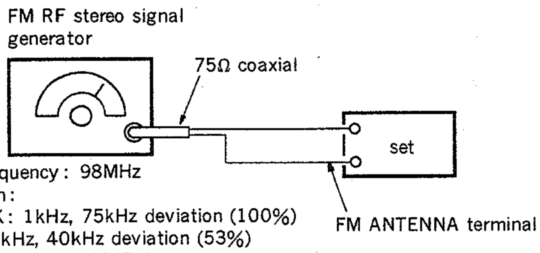
## Precautions in Repairing

If the front end unit fails, it is difficult to repair the inner circuits, so replace the entire front end unit.

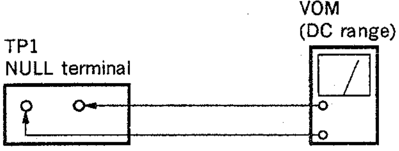
**FM SECTION**

### FM Discriminator Adjustment (NULL Adjustment)

**Setting:**


FM RF stereo signal generator
75Ω coaxial
set
FM ANTENNA terminal

Carrier frequency: 98MHz
Modulation:
AEP, UK: 1kHz, 75kHz deviation (100%)
G, IT: 1kHz, 40kHz deviation (53%)
Output level: 1mV (60dB$\mu$)


VOM
(DC range)
TP1
NULL terminal

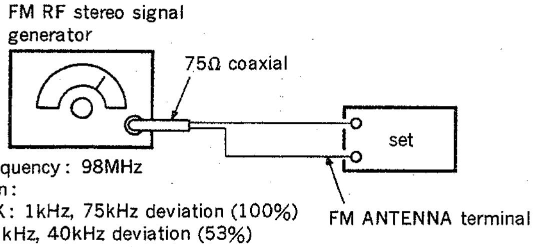
**Procedure:**

1. Tune the set to 98MHz.
2. Adjust T21 for 0V reading on the VOM.

**Note:** FM Tuning Level adjustment should be made after FM discriminator alignment.

### FM Tuning Level Adjustment

**Setting:**


FM RF stereo signal generator
75Ω coaxial
set
FM ANTENNA terminal

Carrier frequency: 98MHz
Modulation:
AEP, UK: 1kHz, 75kHz deviation (100%)
G, IT: 1kHz, 40kHz deviation (53%)
Output level: 0.018mV (25dB$\mu$)

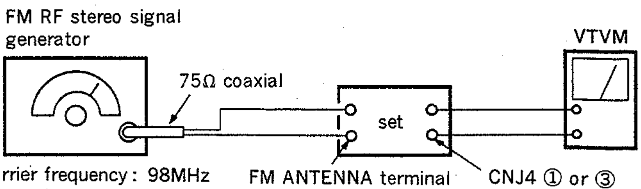
**Procedure:**

1. Tune the set to 98MHz.
2. Adjust T24 so that the TUNED indicator goes on.

- G : Germany model
- IT: Italian model

### FM Stereo Separation Adjustment

**Setting:**


FM RF stereo signal generator
VTVM
75Ω coaxial
set
FM ANTENNA terminal
CNJ4 ① or ③

Carrier frequency: 98MHz
Output level: 1mV (60dB$\mu$)

| Modulation: | | |
|---|---|---|
| | L+R | 33.75kHz deviation |
| | L−R | 33.75kHz deviation |
| | Pilot Signal 19kHz | 7.5kHz deviation |

**Procedure:**

Tune the set to 98MHz.

| FM stereo Signal generator Output channel | VTVM connection | VTVM reading (dB) |
|---|---|---|
| L-CH | L-CH | Ⓐ |
| R-CH | L-CH | Ⓑ<br>Adjust RV21 for minimum reading. |
| R-CH | R-CH | Ⓒ |
| L-CH | R-CH | Ⓓ<br>Adjust RV21 for minimum reading. |

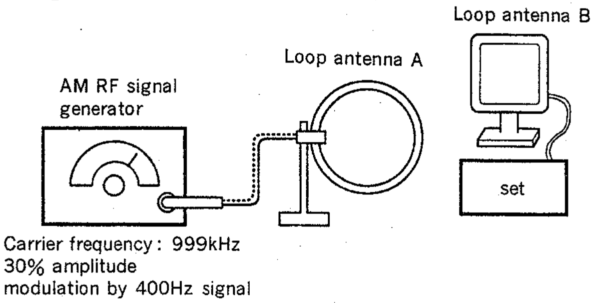
L-CH Stereo separation: Ⓐ—Ⓑ
R-CH Stereo separation: Ⓒ—Ⓓ

The separations of both channels should be equal.

## AM SECTION

### AM Tuning Level Adjustment

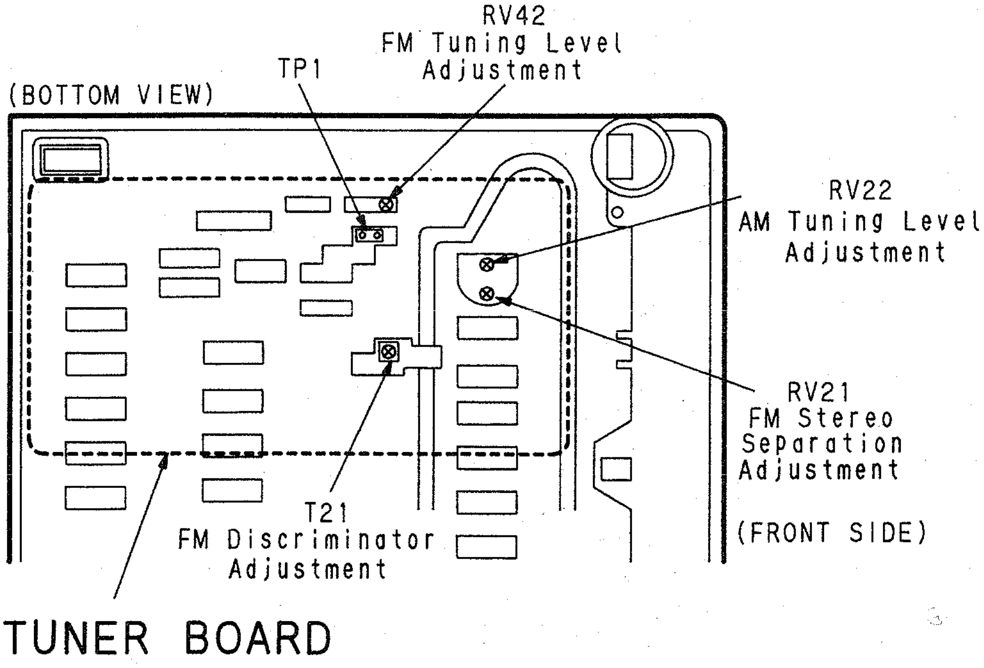
**Setting :**


Loop antenna B
Loop antenna A
AM RF signal generator
set
Carrier frequency : 999kHz
30% amplitude
modulation by 400Hz signal

**Procedure :**

1. Set loop antenna A so that the loop antenna B input level becomes 58dB$\mu$/m (0.8mV/m)
2. Tune the set to 999kHz.
3. Adjust the RV22 so that the TUNED indicator goes on.

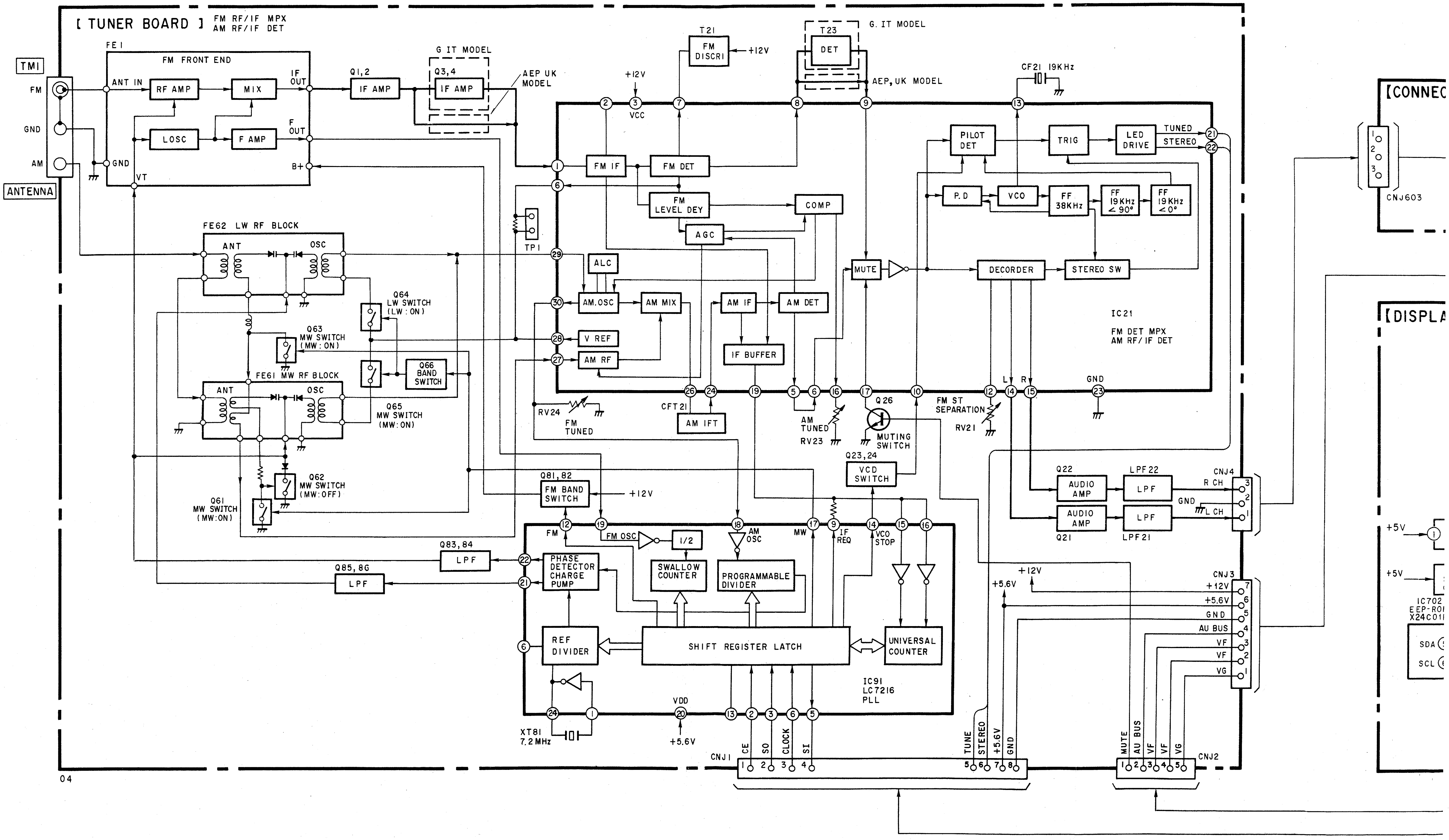
**Adjustment Location :**


RV42
FM Tuning Level Adjustment
TP1
(BOTTOM VIEW)
RV22
AM Tuning Level Adjustment
RV21
FM Stereo Separation Adjustment
T21
FM Discriminator Adjustment
(FRONT SIDE)
TUNER BOARD

5982

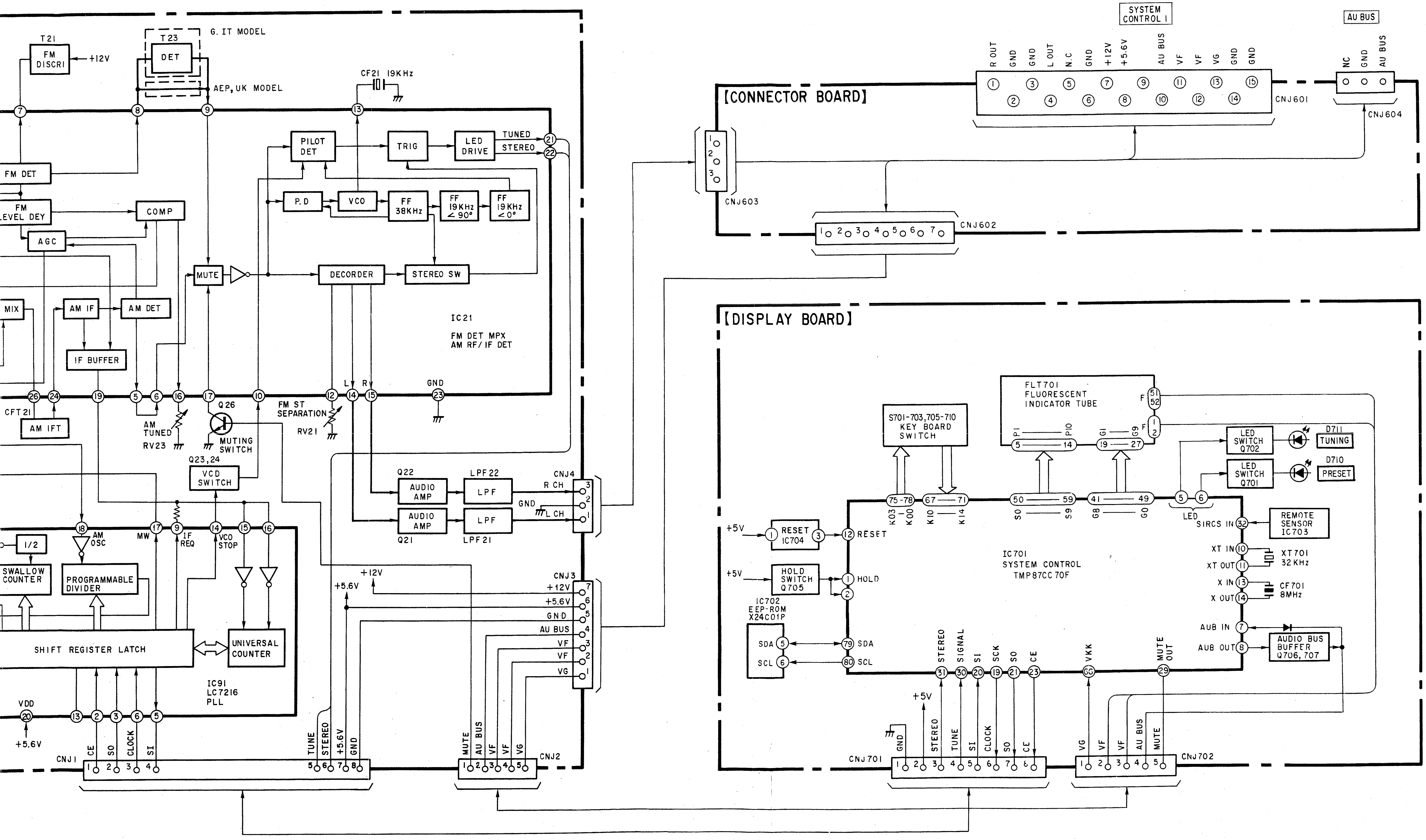
# SECTION 4
# DIAGRAMS

## 4-1. BLOCK DIAGRAM



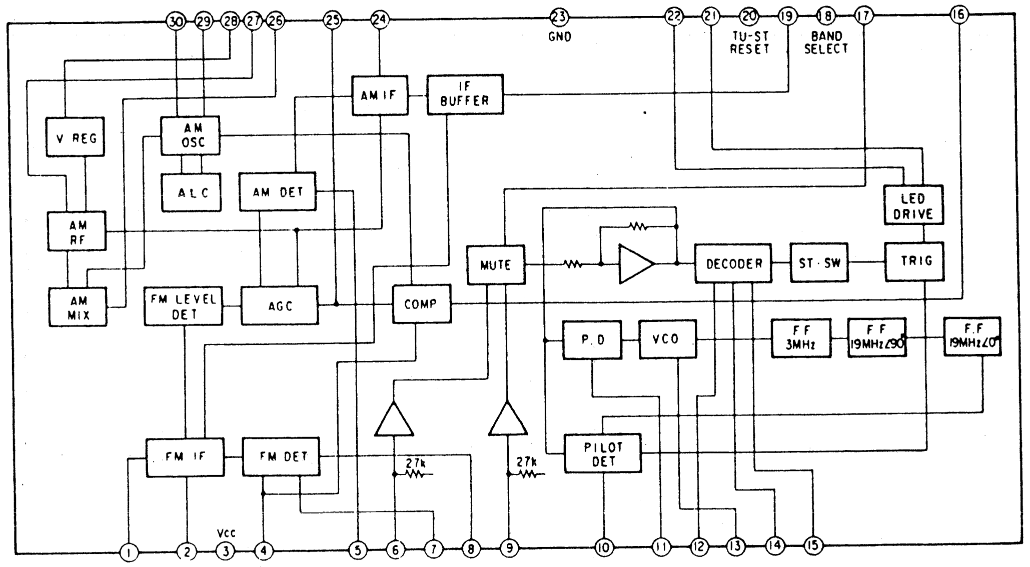
[ TUNER BOARD ] FM RF/IF MPX AM RF/IF DET
TMI
FM
GND
AM
ANTENNA
FE1
FM FRONT END
ANT IN
RF AMP
MIX
IF OUT
LOSC
F AMP
F OUT
GND
VT
B+
Q1,2
IF AMP
G IT MODEL
Q3,4
IF AMP
AEP UK MODEL
T21
FM DISCRI
+12V
T23
DET
G. IT MODEL
AEP, UK MODEL
CF21 19KHz
VCC
FM IF
FM DET
FM LEVEL DET
COMP
AGC
ALC
AM.OSC
AM MIX
AM IF
AM DET
V REF
AM RF
IF BUFFER
TP1
PILOT DET
TRIG
LED DRIVE
TUNED
STEREO
P.D
VCO
FF 38KHz
FF 19KHz ∠90°
FF 19KHz ∠0°
MUTE
DECORDER
STEREO SW
IC21
FM DET MPX
AM RF/IF DET
GND
L
R
FE62 LW RF BLOCK
ANT
OSC
Q64
LW SWITCH
(LW: ON)
Q63
MW SWITCH
(MW: ON)
Q66
BAND SWITCH
FE61 MW RF BLOCK
Q65
MW SWITCH
(MW: ON)
Q62
MW SWITCH
(MW: OFF)
Q61
MW SWITCH
(MW: ON)
RV24
FM TUNED
CFT21
AM IFT
AM TUNED
RV23
Q26
MUTING SWITCH
FM ST SEPARATION
RV21
Q23,24
VCD SWITCH
Q81,82
FM BAND SWITCH
+12V
Q83,84
LPF
Q85,86
LPF
FM
FM OSC
1/2
AM OSC
MW
IF REQ
VCO STOP
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTER
PROGRAMMABLE DIVIDER
REF DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
IC91
LC7216
PLL
XT81
7.2MHz
VDD
+5.6V
Q22
AUDIO AMP
Q21
AUDIO AMP
LPF22
LPF
LPF21
LPF
CNJ4
R CH
GND
L CH
CNJ3
+12V
+5.6V
GND
AU BUS
VF
VF
VG
+12V
+5.6V
CNJ1
CE
SO
CLOCK
SI
TUNE
STEREO
+5.6V
GND
MUTE
AU BUS
VF
VF
VG
CNJ2
[CONNEC
CNJ603
[DISPLA
+5V
+5V
IC702
EEP-ROI
X24C01I
SDA
SCL
04

5982

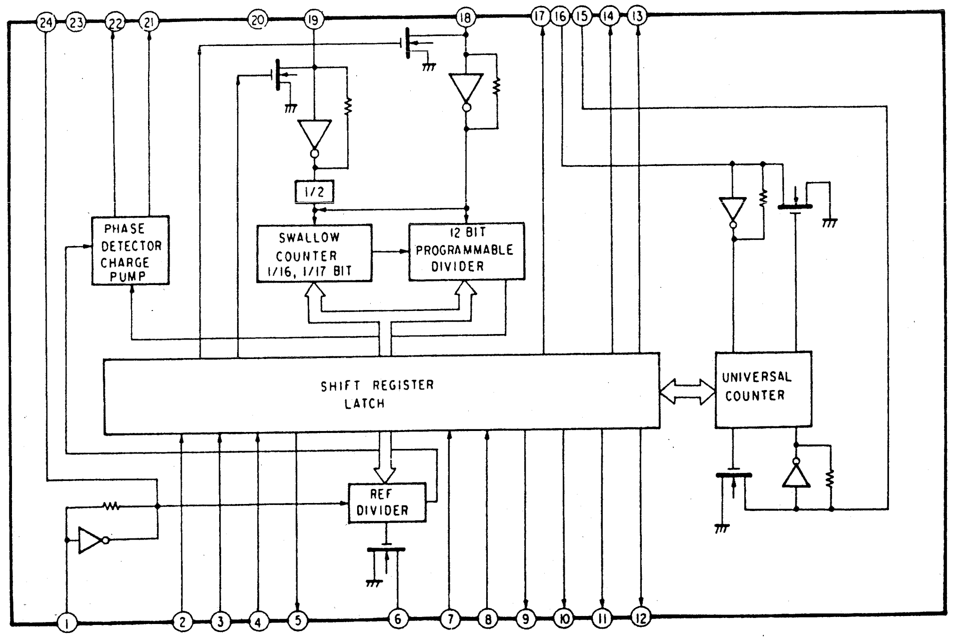

T21
FM DISCRI
+12V
T23
DET
G. IT MODEL
AEP, UK MODEL
CF21 19KHz
FM DET
FM LEVEL DEY
COMP
AGC
PILOT DET
TRIG
LED DRIVE
TUNED
STEREO
P.D
VCO
FF 38KHz
FF 19KHz ∠90°
FF 19KHz ∠0°
MUTE
DECORDER
STEREO SW
MIX
AM IF
AM DET
IF BUFFER
IC21
FM DET MPX
AM RF/IF DET
L
R
GND
CFT21
AM IFT
AM TUNED
RV23
Q26
MUTING SWITCH
FM ST SEPARATION
RV21
Q23,24
VCO SWITCH
Q22
AUDIO AMP
LPF22
LPF
CNJ4
R CH
GND
L CH
AUDIO AMP
Q21
LPF
LPF21
1/2
AM OSC
MW
IF REQ
VCO STOP
SWALLOW COUNTER
PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
IC91
LC7216
PLL
VDD
+5.6V
+12V
+5.6V
CNJ3
+12V
+5.6V
GND
AU BUS
VF
VF
VG
CNJ1
CE
SO
CLOCK
SI
TUNE
STEREO
+5.6V
GND
MUTE
AU BUS
VF
VF
VG
CNJ2
SYSTEM CONTROL I
AU BUS
R OUT
GND
GND
L OUT
N.C
GND
+12V
+5.6V
AU BUS
VF
VF
VG
GND
GND
NC
GND
AU BUS
【CONNECTOR BOARD】
CNJ601
CNJ604
CNJ603
CNJ602
【DISPLAY BOARD】
FLT701
FLUORESCENT INDICATOR TUBE
F
P1
P10
G1
G9
S701-703,705-710
KEY BOARD SWITCH
LED SWITCH Q702
D711
TUNING
LED SWITCH Q701
D710
PRESET
K03
K00
K10
K14
S0
S9
G8
G0
LED
SIRCS IN
REMOTE SENSOR IC703
+5V
RESET IC704
RESET
XT IN
XT OUT
XT701 32KHz
IC701
SYSTEM CONTROL
TMP87CC70F
+5V
HOLD SWITCH Q705
HOLD
X IN
X OUT
CF701 8MHz
IC702
EEP-ROM
X24C01P
SDA
SCL
SDA
SCL
AUB IN
AUB OUT
AUDIO BUS BUFFER Q706, 707
STEREO
SIGNAL
SI
SCK
SO
CE
VKK
MUTE OUT
+5V
GND
STEREO
TUNE
SI
CLOCK
SO
CE
CNJ701
VG
VF
VF
AU BUS
MUTE
CNJ702

## • IC Block Diagrams

### IC21 LA1851N


GND
TU-ST RESET
BAND SELECT
V REG
AM OSC
ALC
AM DET
AM IF
IF BUFFER
AM RF
AM MIX
FM LEVEL DET
AGC
COMP
MUTE
DECODER
ST-SW
LED DRIVE
TRIG
P.D
VCO
F.F 3MHz
F.F 19MHz∠90°
F.F 19MHz∠0°
PILOT DET
FM IF
FM DET
27k
VCC

### IC81 LC7218


1/2
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTER 1/16, 1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF DIVIDER

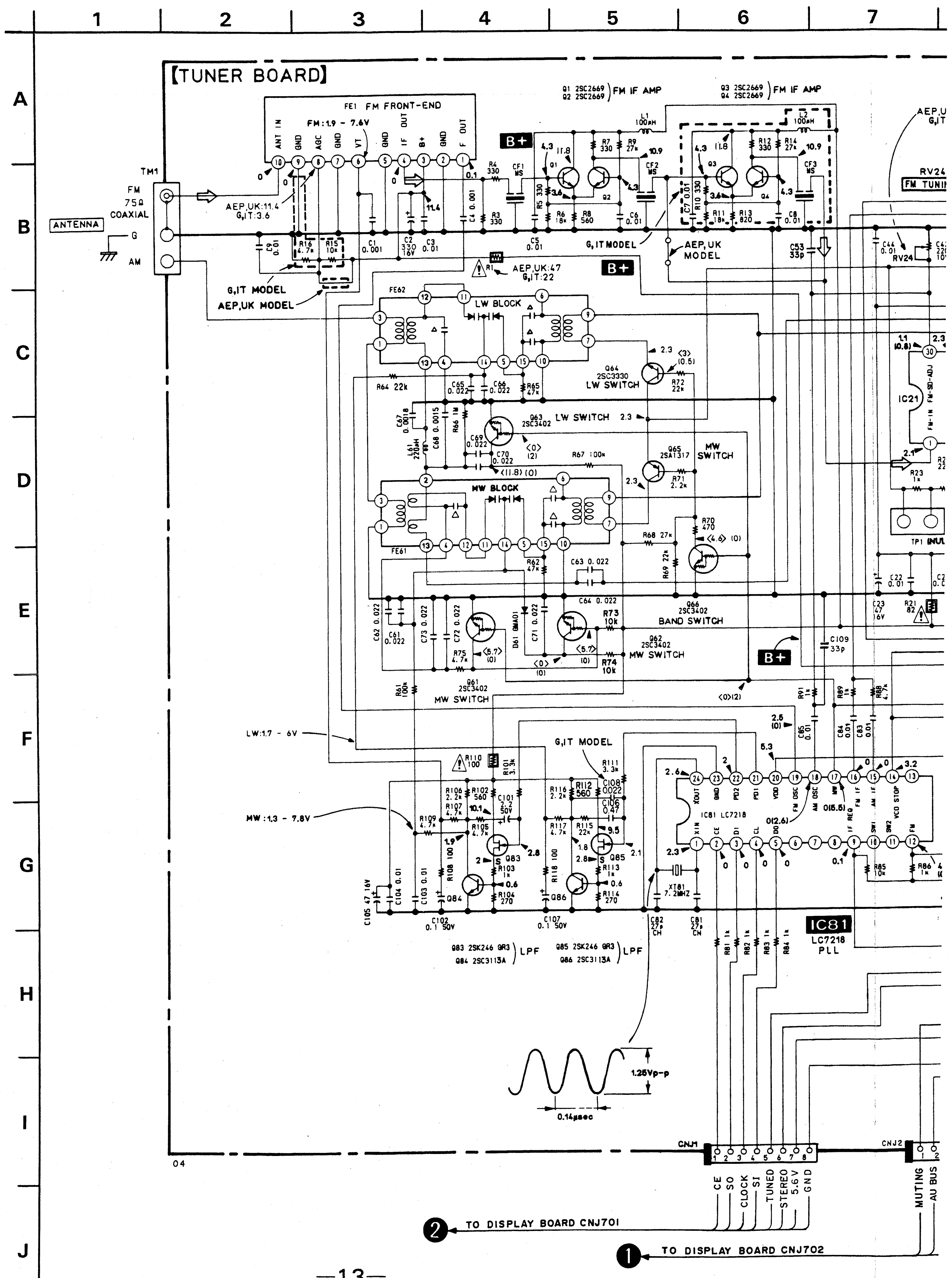
**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¹/₄W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW
  < > : LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- G : Germany model
- IT : Italian model

## 4-2. SCHEMATIC DIAGRAM —TUNER SECTION—


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
[TUNER BOARD]
FE1 FM FRONT-END
FM:1.9 - 7.6V
ANT IN
GND
AGC
VT
IF OUT
B+
F OUT
TM1
FM 75Ω COAXIAL
ANTENNA
G
AM
AEP,UK:11.4 G,IT:3.6
G,IT MODEL
AEP,UK MODEL
AEP,UK:47 G,IT:22
Q1 2SC2669
Q2 2SC2669
FM IF AMP
Q3 2SC2669
Q4 2SC2669
FM IF AMP
CF1
CF2
CF3
B+
G,IT MODEL
AEP,UK MODEL
C53 33p
FE62
LW BLOCK
Q64 2SC3330 LW SWITCH
Q63 2SC3402 LW SWITCH
Q65 2SA1317 MW SWITCH
MW BLOCK
FE61
Q66 2SC3402 BAND SWITCH
Q62 2SC3402 MW SWITCH
Q61 2SC3402 MW SWITCH
C109 33p
IC21
RV24
TP1
LW:1.7 - 6V
MW:1.3 - 7.8V
G,IT MODEL
Q83 2SK246 GR3
Q84 2SC3113A
LPF
Q85 2SK246 GR3
Q86 2SC3113A
LPF
XT81 7.2MHz
IC81 LC7218 PLL
1.26Vp-p
0.14μsec
CNJ1
CE
SO
CLOCK
SI
TUNED
STEREO
5.6V
GND
CNJ2
MUTING
AU BUS
② TO DISPLAY BOARD CNJ701
① TO DISPLAY BOARD CNJ702

herwise noted. pF: μμF
except for electrolytics

or less unless otherwise

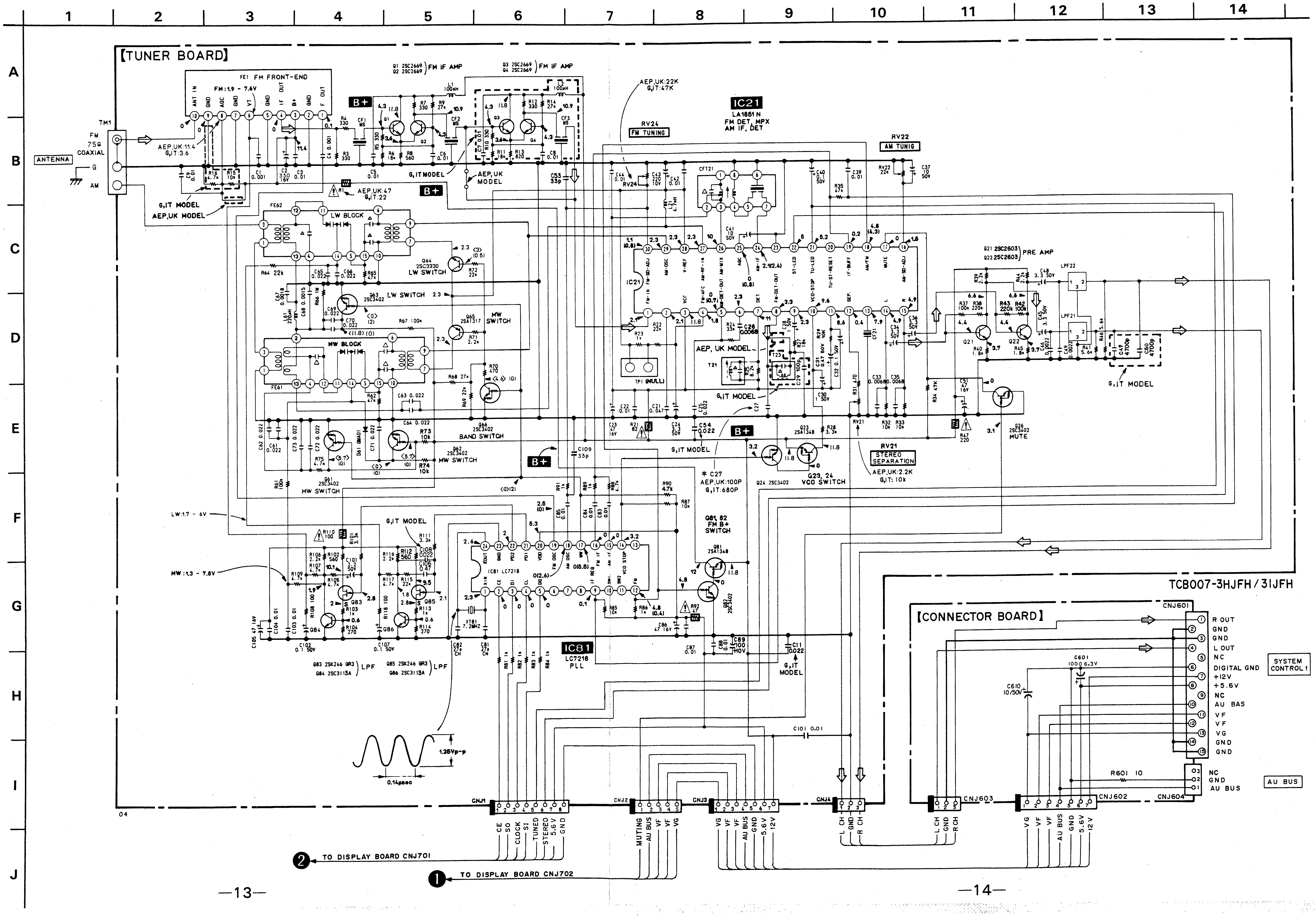
y mark ⚠ or dotted
for safety.
er specified.

with respect to ground
ns.

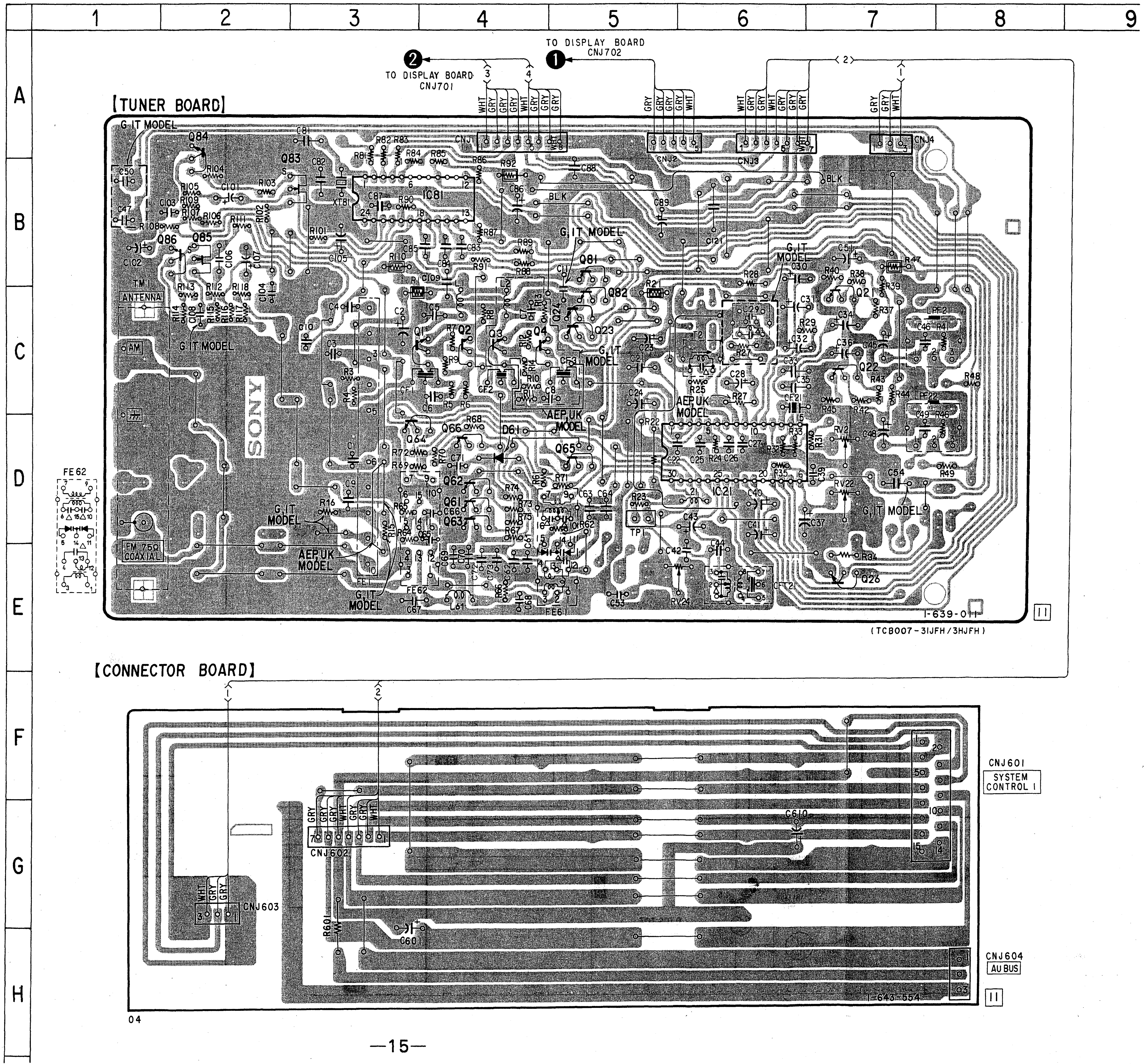
put Impedance 10MΩ).
due to normal produc-

scope.
due to normal produc-

## 4-2. SCHEMATIC DIAGRAM —TUNER SECTION—


【TUNER BOARD】
FE1 FM FRONT-END
ANTENNA
TM1
FM 75Ω COAXIAL
AM
Q1 2SC2669 Q2 2SC2669 FM IF AMP
Q3 2SC2669 Q4 2SC2669 FM IF AMP
B+
AEP,UK:22K G,IT:47K
IC21 LA1851N FM DET, MPX AM IF, DET
RV24 FM TUNING
RV22 AM TUNIG
LW BLOCK
MW BLOCK
Q64 2SC3330 LW SWITCH
Q63 2SC3402 LW SWITCH
Q65 2SA1317 MW SWITCH
Q66 2SC3402 BAND SWITCH
Q62 2SC3402 MW SWITCH
Q61 2SC3402 MW SWITCH
Q21 2SC2603 Q22 2SC2603 PRE AMP
LPF22
LPF21
G,IT MODEL
AEP, UK MODEL
TP1 (NULL)
Q23, 24 VCO SWITCH
RV21 STEREO SEPARATION
AEP,UK:2.2K G,IT: 10k
Q26 2SC3402 MUTE
✱ C27 AEP,UK:100P G,IT:680P
Q81, 82 FM B+ SWITCH
IC81 LC7218 PLL
X81 7.2MHZ
Q83 2SK246 (GR) Q84 2SC3113A LPF
Q85 2SK246 (GR) Q86 2SC3113A LPF
LW:1.7 - 6V
MW:1.3 - 7.8V
1.25Vp-p
0.14μsec
TCB007-3HJFH/31JFH
【CONNECTOR BOARD】
CNJ601
R OUT
GND
GND
L OUT
NC
DIGITAL GND
+12V
+5.6V
NC
AU BAS
VF
VF
VG
GND
GND
SYSTEM CONTROL 1
NC
GND
AU BUS
AU BUS
C601 1000 6.3V
C610 10/50V
R601 10
CNJ1
CNJ2
CNJ3
CNJ4
CNJ603
CNJ602
CNJ604
CE SO CLOCK SI TUNED STEREO 5.6V GND
MUTING AU BUS VF VF VG
VG VF VF AU BUS GND 5.6V 12V
L CH GND R CH
L CH GND RCH
VG VF VF AU BUS GND 5.6V 12V
TO DISPLAY BOARD CNJ701
TO DISPLAY BOARD CNJ702
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J

## 4-3. PRINTED WIRING BOARDS —TUNER SECTION— • Refer to page 22 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
TO DISPLAY BOARD CNJ701
TO DISPLAY BOARD CNJ702
[TUNER BOARD]
G.IT MODEL
ANTENNA
AM
FM 75Ω COAXIAL
FE62
SONY
AEP.UK MODEL
CNJ1
CNJ2
CNJ3
CNJ4
IC81
IC21
TP1
1-639-011
(TCB007-31JFH/3HJFH)
[CONNECTOR BOARD]
CNJ601
SYSTEM CONTROL 1
CNJ602
CNJ603
CNJ604
AU BUS
1-643-554
04

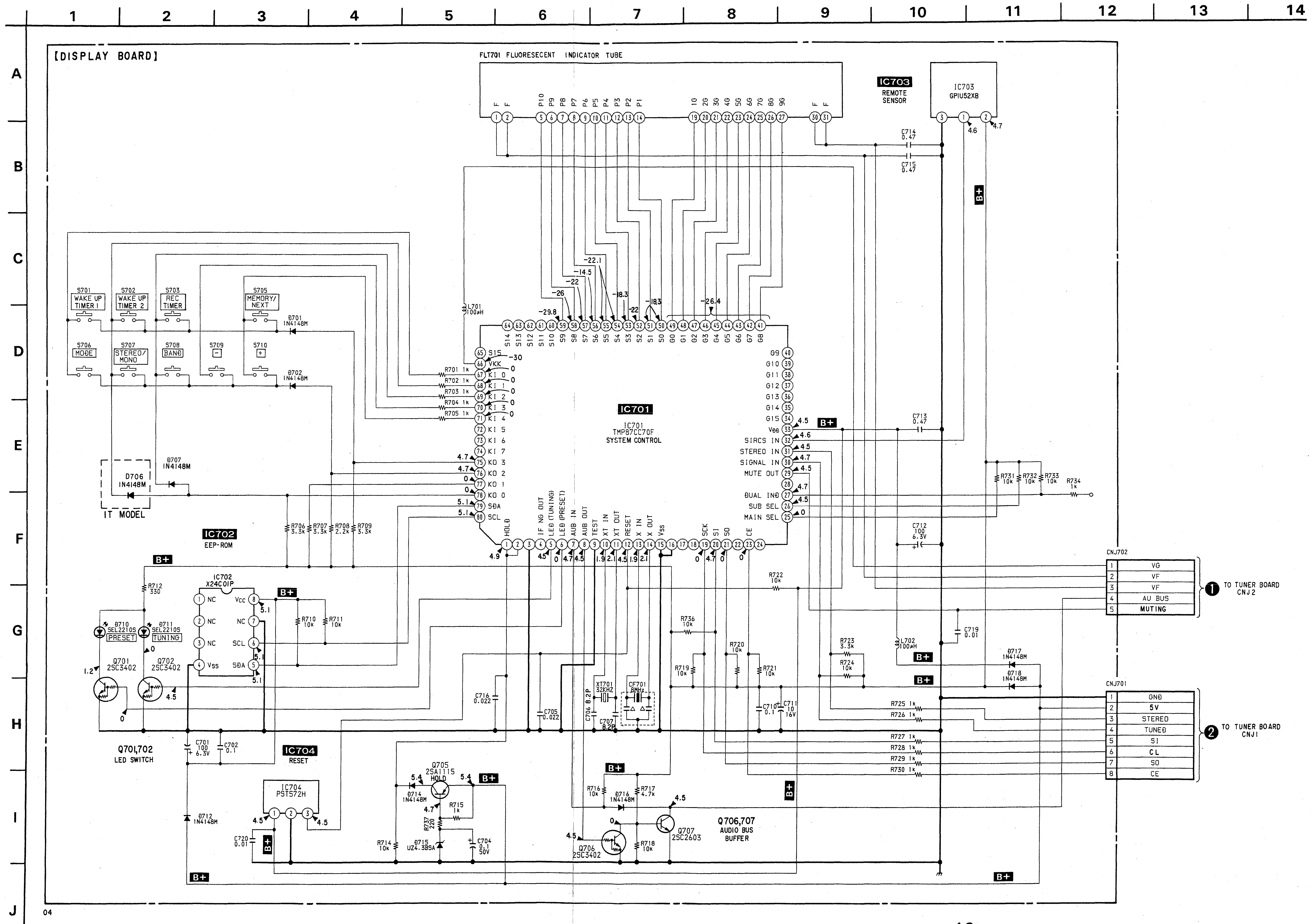
## • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D61 | D-4 |
| IC21 | D-6 |
| IC81 | B-4 |
| Q1 | C-4 |
| Q2 | C-4 |
| Q3 | C-4 |
| Q4 | C-4 |
| Q21 | C-7 |
| Q22 | C-7 |
| Q23 | C-5 |
| Q24 | C-5 |
| Q26 | E-7 |
| Q61 | D-4 |
| Q62 | D-4 |
| Q63 | D-4 |
| Q64 | D-3 |
| Q65 | D-5 |
| Q66 | D-4 |
| Q81 | B-5 |
| Q82 | C-5 |
| Q83 | B-3 |
| Q84 | A-2 |
| Q85 | B-2 |
| Q86 | B-2 |

**Note:**

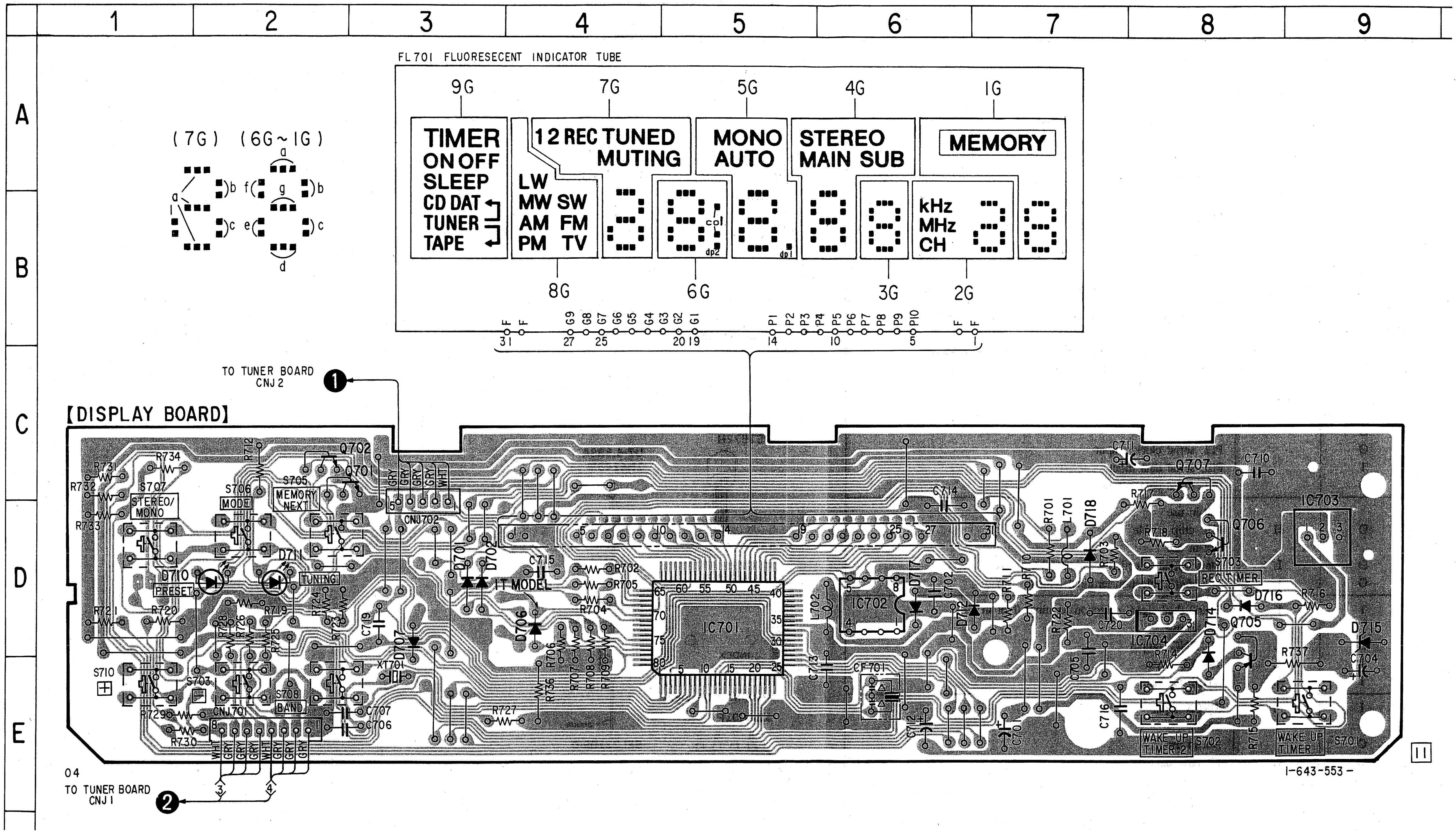
- ○—— : parts extracted from the component side.
- G : Germany model
- IT : Italian model

## 4-4. SCHEMATIC DIAGRAM —DISPLAY SECTION—


[DISPLAY BOARD]
FLT701 FLUORESECENT INDICATOR TUBE
IC703 REMOTE SENSOR
IC703 GP1U52XB
C714 0.47
C715 0.47
B+
S701 WAKE UP TIMER 1
S702 WAKE UP TIMER 2
S703 REC TIMER
S705 MEMORY/ NEXT
S706 MODE
S707 STEREO/ MONO
S708 BAND
S709 −
S710 +
D701 1N4148M
D702 1N4148M
L701 100μH
IC701
IC701 TMP87CC70F SYSTEM CONTROL
R701 1k
R702 1k
R703 1k
R704 1k
R705 1k
D707 1N4148M
D706 1N4148M
IT MODEL
IC702 EEP-ROM
R706 3.3k
R707 3.3k
R708 2.2k
R709 3.3k
C713 0.47
C712 100 6.3V
R731 10k
R732 10k
R733 10k
R734 1k
CNJ702
VG
VF
VF
AU BUS
MUTING
① TO TUNER BOARD CNJ2
R712 330
IC702 X24C01P
R710 10k
R711 10k
D710 SEL2210S PRESET
D711 SEL2210S TUNING
Q701 2SC3402
Q702 2SC3402
Q701,702 LED SWITCH
C716 0.022
C705 0.022
XT701 32KHZ
CF701 8MHz
C706 8.2P
C707 8.2P
R722 10k
R736 10k
R719 10k
R720 10k
R721 10k
C710 0.1
C711 10 16V
R723 3.3k
R724 10k
L702 100μH
C719 0.01
D717 1N4148M
D718 1N4148M
CNJ701
GND
5V
STEREO
TUNED
SI
CL
SO
CE
② TO TUNER BOARD CNJ1
R725 1k
R726 1k
R727 1k
R728 1k
R729 1k
R730 1k
C701 100 6.3V
C702 0.1
IC704 RESET
IC704 PST572H
D712 1N4148M
C720 0.01
Q705 2SA1115 HOLD
D714 1N4148M
R737 220
R715 1k
R714 10k
D715 UZ4.3BSA
C704 0.1 50V
R716 10k
D716 1N4148M
R717 4.7k
R718 10k
Q706 2SC3402
Q707 2SC2603
Q706,707 AUDIO BUS BUFFER
04

## 4-5. PRINTED WIRING BOARD —DISPLAY SECTION—

- Refer to page 22 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
A
B
C
D
E
FL 701 FLUORESECENT INDICATOR TUBE
9G
7G
5G
4G
1G
TIMER
ON OFF
SLEEP
CD DAT
TUNER
TAPE
12 REC TUNED
MUTING
MONO
AUTO
STEREO
MAIN SUB
MEMORY
LW
MW SW
AM FM
PM TV
col
dp2
dp1
kHz
MHz
CH
8G
6G
3G
2G
(7G)
(6G~1G)
a
b
c
d
e
f
g
F F G9 G8 G7 G6 G5 G4 G3 G2 G1
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 F F
31
27
25
20
19
14
10
5
1
TO TUNER BOARD CNJ 2
1
[DISPLAY BOARD]
Q702
Q701
R734
R731
R732
S707
STEREO/MONO
R733
R712
S706
MODE
S705
MEMORY NEXT
CNJ702
GRY
WHT
D710
PRESET
D711
TUNING
D701
D702
C715
IT MODEL
R702
R705
R704
D706
D707
R721
R720
R719
R724
R723
R728
R726
R725
C719
XT701
R706
R736
R707
R708
R709
IC701
C711
Q707
C710
C714
R701
L701
D718
R717
R718
Q706
IC703
R710
R703
S703
REC TIMER
D716
R716
L702
IC702
D717
C702
D712
R711
R722
C720
IC704
D714
Q705
D715
R737
C704
C705
R714
C713
CF701
C712
C701
C716
R715
WAKE UP TIMER 2
S702
WAKE UP TIMER
S701
S710
S703
S708
BAND
CNJ701
C707
C706
R727
R729
R730
R713
04
TO TUNER BOARD CNJ 1
2
3
4
1-643-553-
11

### • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D701 | D-3 |
| D702 | D-3 |
| D706 | D-4 |
| D707 | D-3 |
| D710 | D-2 |
| D711 | D-2 |
| D712 | D-6 |
| D714 | D-8 |
| D715 | D-9 |
| D716 | D-8 |
| D717 | D-6 |
| D718 | D-7 |
| | |
| IC701 | D-5 |
| IC702 | D-6 |
| IC703 | D-9 |
| IC704 | D-8 |
| | |
| Q701 | C-2 |
| Q702 | C-2 |
| Q705 | D-8 |
| Q706 | D-8 |
| Q707 | C-8 |

**Note on Printed Wiring Board:**

- ○—— : parts extracted from the component side.
- IT: Italian model

**Note on Schematic Diagram:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- △ : internal component.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark: FM

- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- IT: Italian model

## 4-6. PIN DESCRIPTION

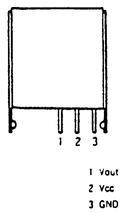
### • IC701 System Controller (TMP87CC70F)

The terminals work to control tuner section (IC21, 81), FL tube display and reading and writing of IC702 (preset data), etc. according to key input and signal from the remote controller.

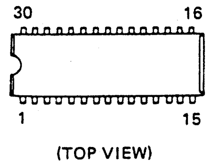
| PIN No. | PIN NAME | I/O | ACTIVE | PIN FUNCTION |
|---|---|---|---|---|
| 1 | HOLD | I | ↓ | HOLD detecting interrupt terminal |
| 2 | HOLD RESET | I | ↑ | HOLD resetting interrupt terminal |
| 3 |  | I |  | Not in use |
| 4 | IF NGOUT | O | H | IF count NG output |
| 5 | LED1 | O | H | TUNING LED ON |
| 6 | LED2 | O | H | PRESET LED ON |
| 7 | AUB IN | I | L | AUDIO BUS input |
| 8 | AUB OUT | O | L | AUDIO BUS output |
| 9 | TEST | I | H | Test terminal |
| 10 | XT IN | I |  | Low frequency oscillator connection terminal (32KHz) |
| 11 | XT OUT | O |  | Low frequency oscillator connection terminal (32KHz) |
| 12 | RESET | I | L | Reset signal input |
| 13 | X IN | I |  | High frequency oscillator connection terminal (8MHz) |
| 14 | X OUT | O |  | High frequency oscillator connection terminal (8MHz) |
| 15 | VSS |  |  | GND |
| 16 |  | I |  | Not in use |
| 17, 18 |  | O |  | Not in use |
| 19 | SCK | O |  | PLL serial clock output |
| 20 | SI | I |  | PLL serial data input |
| 21 | SO | O |  | PLL serial data output |
| 22 |  |  |  | Not in use |
| 23 | CE | O | H | PLL chip enable |
| 24 |  |  |  | Not in use |
| 25 | MAIN SEL | O | L | Main sound selection terminal (Not in use) |
| 26 | SUB SEL | O | L | Sub sound selection terminal (Not in use) |
| 27 | DUAL IND | I | L | Sound dual signal detection terminal (Not in use) |
| 28 |  |  |  | Not in use |
| 29 | MUTE OUT | O | L | MUTING output |
| 30 | SIGNAL IN | I | L | TUNED input |
| 31 | STEREO IN | I | L | STEREO input |
| 32 | SIRCS IN | I | L | SIRCS input |
| 33 | VDD |  |  | +5V |
| 34 - 40 |  | O |  | Not in use |
| 41 - 49 | G0 - G8 | O | H | FL tube digit output |
| 50 - 59 | S0 - S9 | O | H | FL tube segment output |
| 60 - 65 |  | O | H | Not in use |
| 66 | VKK |  |  | FL tube driving power supply |
| 67 - 71 | KI0 - KI4 | I | H | Key input |
| 72 |  | I |  | Not in use |
| 73, 74 |  |  |  | Not in use |
| 75 - 78 | KO0 - KO3 | O | H | Key output |
| 79 | SDA | I/O |  | Data input/output for EEPROM |
| 80 | SCL | O |  | Clock output for EEPROM |

## 4-7. SEMICONDUCTOR LEAD LAYOUTS

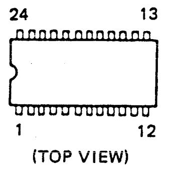
**GP1U52XB**


1 2 3
1 Vout
2 Vcc
3 GND

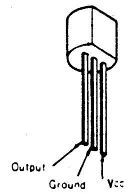
**LA1851N**


30
16
1
15
(TOP VIEW)

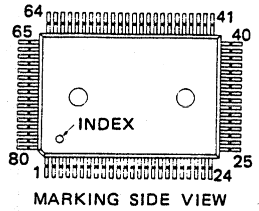
**LC7218**


24
13
1
12
(TOP VIEW)

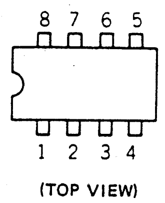
**PST572H**


Output
Ground
Vcc

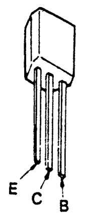
**TMP87CC70F**


64
41
65
40
INDEX
80
25
1
24
MARKING SIDE VIEW

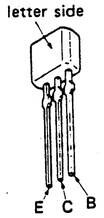
**X24C01P**


8 7 6 5
1 2 3 4
(TOP VIEW)

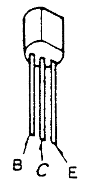
**DTA114ES**
**DTC114ES**
**2S2603-EF**
**2SC2669-0Y**
**2SC3113-AB**



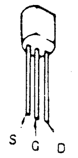
**2SA1175-HFE**
**2SC2785-HFE**


letter side
E C B

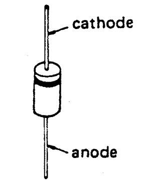
**2SC3330-T**



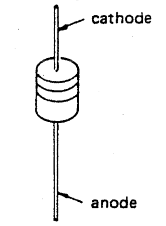
**2SK246-GR3**



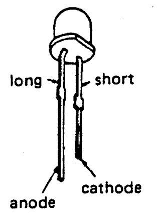
**UZ-4.3BSA**
**1N4148M**


cathode
anode

**1SS120**


cathode
anode

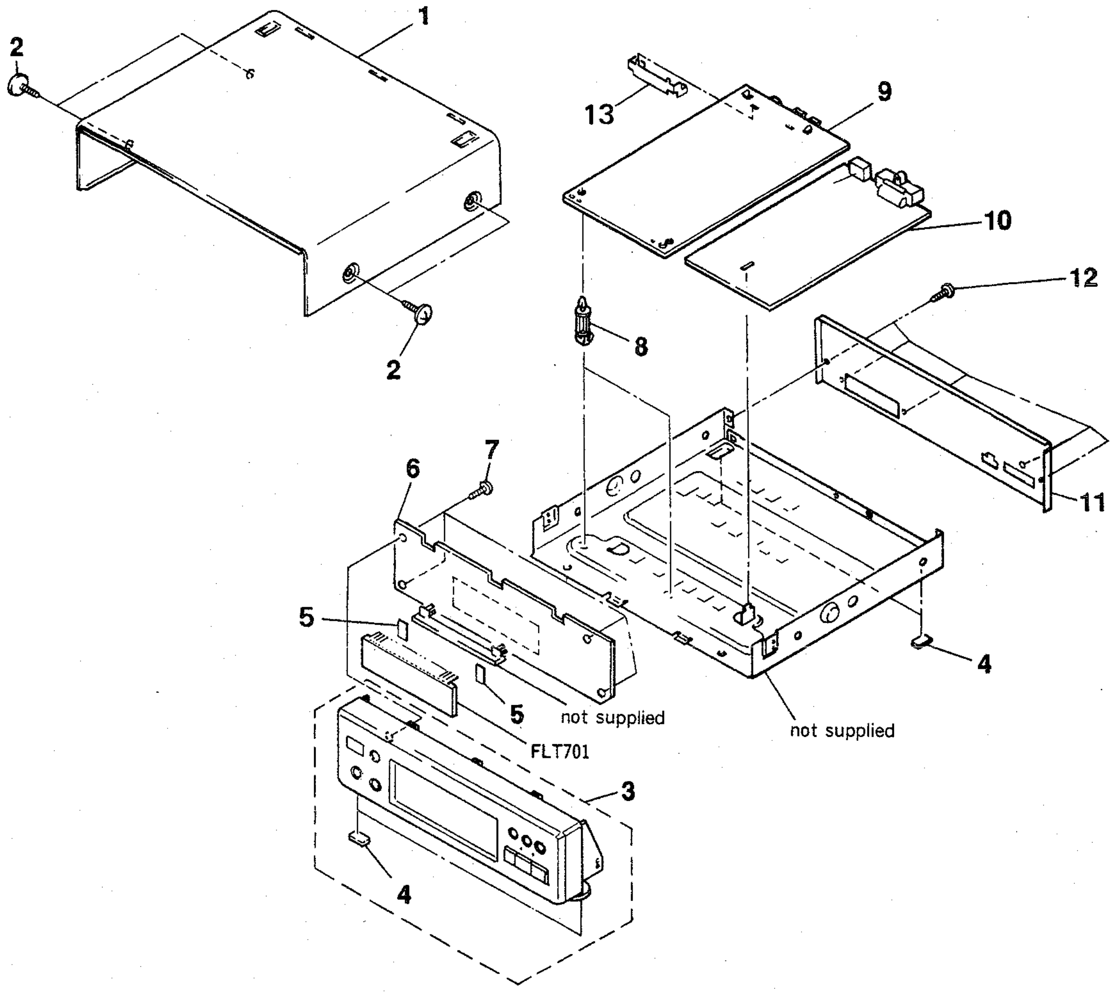
**SEL2210S-D**


long
short
anode
cathode

# SECTION 5
# EXPLODED VIEW

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.
- G : Germany model
- IT : Italian model



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 1 | 4-944-423-41 | CASE (K206522) | |
| 2 | 3-363-099-01 | SCREW (CASE +3X8 TP2) | |
| 3 | X-4942-571-1 | PANEL ASSY, FRONT | |
| 4 | 4-930-336-21 | FOOT (FELT) | |
| * 5 | 4-932-810-11 | CUSHION (FL) | |
| * 6 | A-4345-967-A | DISPLAY BOARD, COMPLETE (AEP, UK, G) | |
| * 6 | A-4345-970-A | DISPLAY BOARD, COMPLETE (IT) | |
| 7 | 4-928-635-01 | SCREW, +BV (2.6X8) TAPPING | |
| * 8 | 4-914-008-01 | HOLDER, PCB | |
| * 9 | A-4303-367-A | TUNER BOARD, COMPLETE (TCB007-3HJFH) (AEP, UK) | |
| * 9 | A-4303-368-A | TUNER BOARD, COMPLETE (TCB007-3IJFH) (G, IT) | |
| * 10 | 1-643-554-11 | CONNECTOR BOARD | |
| * 11 | 4-948-729-01 | PANEL (EXP), BACK (AEP, UK) | |
| * 11 | 4-948-729-11 | PANEL (EXP), BACK (IT) | |
| * 11 | 4-948-729-21 | PANEL (EXP), BACK (G) | |
| 12 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S | |
| * 13 | 4-924-988-11 | PLATE (ST), GROUND | |
| FLT701 | 1-519-709-11 | INDICATOR TUBE, FLUORESCENT | |

**TUNER**

# SECTION 6
# ELECTRICAL PARTS LIST

NOTE:
- ● Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- ● -XX and -X mean standardized parts, so they may have some difference from the original one.
- ● RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- ● Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- ● SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- ● CAPACITORS
  uF: μF
- ● COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- •G : Germany model
- •IT : Italian model

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | A-4303-367-A | TUNER BOARD, COMPLETE (TCB007-3HJFH) | | | | (AEP, UK) |
| | A-4303-368-A | TUNER BOARD, COMPLETE (TCB007-3IJFH) | | | | (G, IT) |
| | | *********************************** | | | | |
| * | 4-924-988-11 | PLATE (ST), GROUND | | | | |
| | | < CAPACITOR > | | | | |
| C1 | 1-162-294-11 | CERAMIC CHIP | 0.001uF | 20% | 25V | |
| C2 | 1-124-119-00 | ELECT | 330uF | 20% | 16V | |
| C3 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C4 | 1-162-294-31 | CERAMIC CHIP | 0.001uF | 20% | 25V | |
| C5 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C6 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C7 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | (G, IT) |
| C8 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | (G, IT) |
| C9 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C11 | 1-101-005-00 | CERAMIC | 0.022uF | | 50V | (G, IT) |
| C21 | 1-101-006-00 | CERAMIC | 0.047uF | | 50V | |
| C22 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C23 | 1-124-477-11 | ELECT | 47uF | 20% | 25V | |
| C24 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V | |
| C25 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C26 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 20% | 12V | |
| C27 | 1-162-516-11 | CERAMIC CHIP | 100pF | 10% | 50V | (AEP, UK) |
| C27 | 1-163-007-11 | CERAMIC CHIP | 680pF | 20% | 50V | (G, IT) |
| C28 | 1-124-903-11 | ELECT | 1.0uF | 20% | 50V | |
| C29 | 1-162-516-11 | CERAMIC CHIP | 100pF | 10% | 50V | (G, IT) |
| C30 | 1-124-903-11 | ELECT | 1.0uF | 20% | 50V | |
| C31 | 1-124-902-00 | ELECT | 0.47uF | 20% | 50V | |
| C32 | 1-124-463-00 | ELECT | 0.1uF | 20% | 50V | |
| C33 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V | |
| C34 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V | |
| C35 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V | |
| C36 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V | |
| C37 | 1-124-907-11 | ELECT | 10uF | 20% | 50V | |
| C39 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C40 | 1-124-463-00 | ELECT | 0.1uF | 20% | 50V | |
| C41 | 1-124-907-11 | ELECT | 10uF | 20% | 50V | |
| C42 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C43 | 1-126-176-11 | ELECT | 220uF | 20% | 10V | |
| C44 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C45 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V | |
| C46 | 1-161-375-00 | CERAMIC CHIP | 0.0022uF | 20% | 25V | |
| C47 | 1-163-170-00 | CERAMIC CHIP | 0.0047uF | 20% | 25V | (G, IT) |
| C48 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V | |
| C49 | 1-161-375-00 | CERAMIC CHIP | 0.0022uF | 20% | 25V | |
| C50 | 1-163-170-00 | CERAMIC CHIP | 0.0047uF | 20% | 25V | (G, IT) |
| C51 | 1-124-477-11 | ELECT | 47uF | 20% | 25V | |
| C53 | 1-163-105-00 | CERAMIC CHIP | 33pF | 5% | 50V | |
| C54 | 1-101-005-00 | CERAMIC | 0.022uF | | 50V | (G, IT) |
| C61 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C62 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C63 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C64 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C65 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C66 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C67 | 1-102-120-00 | CERAMIC | 0.0018uF | 10% | 50V | |
| C68 | 1-163-111-11 | CERAMIC CHIP | 0.0015uF | 20% | 25V | |
| C69 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C70 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C71 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C72 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C73 | 1-163-063-00 | CERAMIC MELF | 0.022uF | | 25V | |
| C81 | 1-102-961-00 | CERAMIC | 27pF | 5% | 50V | |
| C82 | 1-102-961-00 | CERAMIC | 27pF | 5% | 50V | |
| C83 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C84 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C85 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C86 | 1-124-477-11 | ELECT | 47uF | 20% | 25V | |
| C87 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C88 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C89 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C101 | 1-124-925-11 | ELECT | 2.2uF | 20% | 100V | |
| C102 | 1-124-463-00 | ELECT | 0.1uF | 20% | 50V | |
| C103 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C104 | 1-163-059-00 | CERAMIC MELF | 0.01uF | 20% | 16V | |
| C105 | 1-124-477-11 | ELECT | 47uF | 20% | 25V | |
| C106 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C107 | 1-124-463-00 | ELECT 0.1uF 20% 50V | |
| C108 | 1-163-063-00 | CERAMIC MELF 0.022uF 25V | (G, IT) |
| C109 | 1-162-211-31 | CERAMIC 33pF 5% 50V | |
| C121 | 1-161-379-00 | CERAMIC 0.01uF 30% 16V | (G, IT) |
| | | < FILTER > | |
| CF1 | 1-567-389-11 | FILTER, CERAMIC | |
| CF2 | 1-567-389-11 | FILTER, CERAMIC | |
| CF3 | 1-567-389-11 | FILTER, CERAMIC (G, IT) | |
| | | < OSCILLATOR > | |
| CF21 | 1-577-075-11 | OSCILLATOR, CERAMIC (19KHz) | |
| | | < IF TRANSFORMER > | |
| CFT21 | 1-404-853-11 | TRANSFORMER, IF (CERAMIC FILTER) | |
| | | < CONECTOR > | |
| * CNJ1 | 1-564-342-11 | SOCKET, CONNECTOR 8P | |
| * CNJ2 | 1-564-339-00 | PIN, CONNECTOR 5P | |
| * CNJ3 | 1-564-341-11 | PIN, CONNECTOR 7P | |
| * CNJ4 | 1-564-337-00 | PIN, CONNECTOR 3P | |
| | | < DIODE > | |
| D61 | 8-719-912-20 | DIODE 1SS120 | |
| | | < FM FRONT END > | |
| FE1 | 1-463-857-11 | FRONT END, FM (G, IT) | |
| FE1 | 1-463-862-21 | FRONT END, FM (AEP, UK) | |
| | | < ENCAPSULATED COMPONENT > | |
| FE61 | 1-236-462-11 | ENCAPSULATED COMPONENT (MW RF) | |
| FE62 | 1-236-463-11 | ENCAPSULATED COMPONENT (LW RF) | |
| | | < IC > | |
| IC21 | 8-759-821-45 | IC LA1851N | |
| IC81 | 8-759-820-91 | IC LC7218 | |
| | | < INDUCTOR > | |
| L1 | 1-410-645-31 | MICRO INDUCTOR 100uH | |
| L2 | 1-410-645-31 | MICRO INDUCTOR 100uH (G, IT) | |
| L21 | 1-407-500-00 | MICRO INDUCTOR 4.7mH | |
| L61 | 1-410-525-11 | MICRO INDUCTOR 220uH | |
| | | < LOW PASS FILTER > | |
| LPF21 | 1-235-164-00 | FILTER, LOW PASS | |
| LPF22 | 1-235-164-00 | FILTER, LOW PASS | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < TRANSISTOR > | |
| Q1 | 8-729-230-99 | TRANSISTOR 2SC2669-OY | |
| Q2 | 8-729-230-99 | TRANSISTOR 2SC2669-OY | |
| Q3 | 8-729-230-99 | TRANSISTOR 2SC2669-OY | (G, IT) |
| Q4 | 8-729-230-99 | TRANSISTOR 2SC2669-OY | (G, IT) |
| Q21 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q22 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q23 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q24 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q26 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q61 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q62 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q63 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q64 | 8-729-820-24 | TRANSISTOR 2SC3330-T | |
| Q65 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q66 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q81 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q82 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q83 | 8-729-202-67 | TRANSISTOR 2SK246-GR3 | |
| Q84 | 8-729-230-93 | TRANSISTOR 2SC3113-AB | |
| Q85 | 8-729-202-67 | TRANSISTOR 2SK246-GR3 | |
| Q86 | 8-729-230-93 | TRANSISTOR 2SC3113-AB | |
| | | < RESISTOR > | |
| ⚠R1 | 1-249-397-11 | CARBON (SMALL) 22 5% 1/4W F | (G, IT) |
| ⚠R1 | 1-249-401-11 | CARBON (SMALL) 47 5% 1/4W F | (AEP, UK) |
| R3 | 1-249-329-11 | CARBON MELF 330 5% 1/8W | |
| R4 | 1-249-329-11 | CARBON MELF 330 5% 1/8W | |
| R5 | 1-249-329-11 | CARBON MELF 330 5% 1/8W | |
| R6 | 1-249-350-11 | CARBON MELF 18K 5% 1/8W | |
| R7 | 1-249-329-11 | CARBON MELF 330 5% 1/8W | |
| R8 | 1-249-332-11 | CARBON MELF 560 5% 1/8W | |
| R9 | 1-249-352-11 | CARBON MELF 27K 5% 1/8W | |
| R10 | 1-249-329-11 | CARBON MELF 330 5% 1/8W | (G, IT) |
| R11 | 1-249-350-11 | CARBON MELF 18K 5% 1/8W | (G, IT) |
| R12 | 1-249-329-11 | CARBON MELF 330 5% 1/8W | (G, IT) |
| R13 | 1-249-334-11 | CARBON MELF 820 5% 1/8W | (G, IT) |
| R14 | 1-249-352-11 | CARBON MELF 27K 5% 1/8W | (G, IT) |
| R15 | 1-249-374-11 | CARBON MELF 10K 5% 1/8W | (G, IT) |
| R16 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | (G, IT) |
| ⚠R21 | 1-249-404-00 | CARBON (SMALL) 82 5% 1/4W F | |
| R22 | 1-249-433-11 | CARBON (SMALL) 22K 5% 1/4W | |
| R23 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R24 | 1-249-353-11 | CARBON MELF 33K 5% 1/8W | |
| R25 | 1-249-346-11 | CARBON MELF 8.2K 5% 1/8W | |
| R27 | 1-249-432-11 | CARBON (SMALL) 18K 5% 1/4W | |
| R28 | 1-249-423-11 | CARBON (SMALL) 3.3K 5% 1/4W | |
| R29 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

## TUNER DISPLAY CONNECTOR

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R31 | 1-249-331-11 | CARBON MELF 470 5% 1/8W | |
| R32 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |
| R33 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |
| R34 | 1-249-437-11 | CARBON (SMALL) 47K 5% 1/4W | |
| R35 | 1-249-355-11 | CARBON MELF 47K 5% 1/8W | |
| R37 | 1-249-359-11 | CARBON MELF 100K 5% 1/8W | |
| R38 | 1-249-363-11 | CARBON MELF 220K 5% 1/8W | |
| R39 | 1-249-339-11 | CARBON MELF 2.2K 5% 1/8W | |
| R40 | 1-249-338-11 | CARBON MELF 1.8K 5% 1/8W | |
| R41 | 1-249-344-11 | CARBON MELF 5.6K 5% 1/8W | |
| R42 | 1-249-359-11 | CARBON MELF 100K 5% 1/8W | |
| R43 | 1-249-363-11 | CARBON MELF 220K 5% 1/8W | |
| R44 | 1-249-339-11 | CARBON MELF 2.2K 5% 1/8W | |
| R45 | 1-249-338-11 | CARBON MELF 1.8K 5% 1/8W | |
| R46 | 1-249-344-11 | CARBON MELF 5.6K 5% 1/8W | |
| ⚠R47 | 1-249-409-11 | CARBON (SMALL) 220 5% 1/4W F | |
| R48 | 1-249-359-11 | CARBON MELF 100K 5% 1/8W | |
| R49 | 1-249-359-11 | CARBON MELF 100K 5% 1/8W | |
| R61 | 1-249-359-11 | CARBON MELF 100K 5% 1/8W | |
| R62 | 1-249-355-11 | CARBON MELF 47K 5% 1/8W | |
| R64 | 1-249-351-11 | CARBON MELF 22K 5% 1/8W | |
| R65 | 1-249-355-11 | CARBON MELF 47K 5% 1/8W | |
| R66 | 1-215-493-00 | CARBON MELF 1M 5% 1/5W | |
| R67 | 1-249-359-11 | CARBON MELF 100K 5% 1/8W | |
| R68 | 1-249-352-11 | CARBON MELF 27K 5% 1/8W | |
| R69 | 1-249-351-11 | CARBON MELF 22K 5% 1/8W | |
| R70 | 1-249-331-11 | CARBON MELF 470 5% 1/8W | |
| R71 | 1-249-339-11 | CARBON MELF 2.2K 5% 1/8W | |
| R72 | 1-249-351-11 | CARBON MELF 22K 5% 1/8W | |
| R73 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |
| R74 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |
| R75 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| R81 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R82 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R83 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R84 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R85 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |
| R86 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R87 | 1-249-347-11 | CARBON MELF 10K 5% 1/8W | |
| R88 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| R89 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R90 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| R91 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| ⚠R92 | 1-249-401-11 | CARBON (SMALL) 47 5% 1/4W F | |
| R101 | 1-249-341-11 | CARBON MELF 3.3K 5% 1/8W | |
| R102 | 1-249-332-11 | CARBON MELF 560 5% 1/8W | |
| R103 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R104 | 1-249-328-11 | CARBON MELF 270 5% 1/8W | |
| R105 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| R106 | 1-249-339-11 | CARBON MELF 2.2K 5% 1/8W | |
| R107 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| R108 | 1-249-323-11 | CARBON MELF 100 5% 1/8W | |
| R109 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| ⚠R110 | 1-249-405-11 | CARBON (SMALL) 100 5% 1/4W F | |
| R111 | 1-249-341-11 | CARBON MELF 3.3K 5% 1/8W | |
| R112 | 1-249-332-11 | CARBON MELF 560 5% 1/8W | |
| R113 | 1-249-335-11 | CARBON MELF 1K 5% 1/8W | |
| R114 | 1-249-328-11 | CARBON MELF 270 5% 1/8W | |
| R115 | 1-249-351-11 | CARBON MELF 22K 5% 1/8W | |
| R116 | 1-249-339-11 | CARBON MELF 2.2K 5% 1/8W | |
| R117 | 1-249-343-11 | CARBON MELF 4.7K 5% 1/8W | |
| R118 | 1-249-323-11 | CARBON MELF 100 5% 1/8W | |
| | | < VARIABLE RESISTOR > | |
| RV21 | 1-238-598-11 | RES, ADJ, CARBON 2.2K (AEP, UK) | |
| RV21 | 1-238-600-11 | RES, ADJ, CARBON 10K (G, IT) | |
| RV22 | 1-238-601-11 | RES, ADJ, CARBON 22K | |
| RV24 | 1-238-601-11 | RES, ADJ, CARBON 22K (AEP, UK) | |
| RV24 | 1-238-602-11 | RES, ADJ, CARBON 47K (G, IT) | |
| | | < TRANSFORMER > | |
| T21 | 1-404-807-11 | TRANSFORMER, DISCRIMINATOR | |
| T23 | 1-236-465-11 | ENCAPSULATED COMPONENT (G, IT) | |
| | | < TERMINAL > | |
| * TM1 | 1-537-138-31 | TERMINAL BOARD (ANTENNA) | |
| | | < CONNECTOR PIN > | |
| * TP1 | 1-560-060-00 | PIN, CONNECTOR 2P | |
| | | < CRYSTAL VIBRATOR > | |
| XT81 | 1-577-126-11 | VIBRATOR, CRYSTAL (7.2MHz) | |
| ********************************************************** | | | |
| * | A-4345-967-A | DISPLAY BOARD, COMPLETE (AEP, UK, G) | |
| * | A-4345-970-A | DISPLAY BOARD, COMPLETE (IT) | |
| | | ********************** | |
| * | 1-643-554-11 | CONNECTOR BOARD | |
| | | *************** | |
| * | 4-932-810-11 | CUSHION (FL) | |
| * | 4-944-441-01 | HOLDER (FL TUBE) | |
| | | < CAPACITOR > | |
| C601 | 1-124-471-00 | ELECT 1000uF 20% 6.3V | |
| C610 | 1-124-907-11 | ELECT 10uF 20% 50V | |
| C701 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C702 | 1-164-159-11 | CERAMIC 0.1uF 50V | |
| C704 | 1-124-463-00 | ELECT 0.1uF 20% 50V | |

The components identified by
mark ⚠ or dotted line with mark.
⚠ are critical for safety.
Replace only with part number
specified.

## DISPLAY CONNECTOR

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C705 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C706 | 1-162-198-31 | CERAMIC | 8.2PF | 10% | 50V |
| C707 | 1-162-198-31 | CERAMIC | 8.2PF | 10% | 50V |
| C710 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C711 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C712 | 1-126-177-11 | ELECT | 100uF | 20% | 10V |
| C713 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C714 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C715 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C716 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C719 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C720 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| | | < VIBRATOR > | | | |
| CF701 | 1-579-125-11 | VIBRATOR, CERAMIC (8MHz) | | | |
| | | < CONNECTOR > | | | |
| * CNJ601 | 1-566-859-11 | SOCKET, CONNECTOR 15P (SYSTEM CONTROL1) | | | |
| * CNJ602 | 1-564-341-11 | PIN, CONNECTOR 7P | | | |
| * CNJ603 | 1-564-337-00 | PIN, CONNECTOR 3P | | | |
| * CNJ604 | 1-565-561-11 | PIN, CONNECTOR 3P (AU BUS) | | | |
| * CNJ701 | 1-564-342-11 | PIN, CONNECTOR 8P | | | |
| * CNJ702 | 1-564-339-00 | PIN, CONNECTOR 5P | | | |
| | | < DIODE > | | | |
| D701 | 8-719-987-63 | DIODE | 1N4148M | | |
| D702 | 8-719-987-63 | DIODE | 1N4148M | | |
| D706 | 8-719-987-63 | DIODE | 1N4148M (IT) | | |
| D707 | 8-719-987-63 | DIODE | 1N4148M | | |
| D710 | 8-719-301-39 | LED | SEL2210S-D (PRESET) | | |
| D711 | 8-719-301-39 | LED | SEL2210S-D (TUNING) | | |
| D712 | 8-719-987-63 | DIODE | 1N4148M | | |
| D714 | 8-719-987-63 | DIODE | 1N4148M | | |
| D715 | 8-719-010-28 | DIODE | UZ-4.3BSA | | |
| D716 | 8-719-987-63 | DIODE | 1N4148M | | |
| D717 | 8-719-987-63 | DIODE | 1N4148M | | |
| D718 | 8-719-987-63 | DIODE | 1N4148M | | |
| | | < FLUORESCENT INDICATOR > | | | |
| FLT701 | 1-519-709-11 | INDICATOR TUBE, FLUORESCENT | | | |
| | | < IC > | | | |
| IC701 | 8-759-059-85 | IC | TMP87CC70F | | |
| IC702 | 8-759-500-31 | IC | X24C01P | | |
| IC703 | 8-749-920-83 | IC | GP1U52XB | | |
| IC704 | 8-759-515-58 | IC | PST572H | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < COIL > | | | |
| L701 | 1-410-521-11 | INDUCTOR | 100uH | | |
| L702 | 1-410-521-11 | INDUCTOR | 100uH | | |
| | | < TRANSISTOR > | | | |
| Q701 | 8-729-900-80 | TRANSISTOR | DTC114ES | | |
| Q702 | 8-729-900-80 | TRANSISTOR | DTC114ES | | |
| Q705 | 8-729-119-76 | TRANSISTOR | 2SA1175-HFE | | |
| Q706 | 8-729-900-80 | TRANSISTOR | DTC114ES | | |
| Q707 | 8-729-620-05 | TRANSISTOR | 2SC2603-EF | | |
| | | < RESISTOR > | | | |
| R601 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R701 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R702 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R703 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R704 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R705 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R706 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R707 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R708 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R709 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R710 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R711 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R712 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R714 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R715 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R716 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R717 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R718 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R719 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R720 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R721 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R722 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R723 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R724 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R725 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R726 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R727 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R728 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R729 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R730 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R731 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R732 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R733 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R734 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R736 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R737 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |

## DISPLAY CONNECTOR

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < SWITCH > | |
| S701 | 1-554-303-21 | SWITCH, TACTILE (WAKE UP TIMER 1) | |
| S702 | 1-554-303-21 | SWITCH, TACTILE (WAKE UP TIMER 2) | |
| S703 | 1-554-303-21 | SWITCH, TACTILE (REC TIMER) | |
| S705 | 1-554-303-21 | SWITCH, TACTILE (MEMORY/NEXT) | |
| S706 | 1-554-303-21 | SWITCH, TACTILE (MODE) | |
| S707 | 1-554-303-21 | SWITCH, TACTILE (STEREO/MONO) | |
| S708 | 1-554-303-21 | SWITCH, TACTILE (BAND) | |
| S709 | 1-554-303-21 | SWITCH, TACTILE (-) | |
| S710 | 1-554-303-21 | SWITCH, TACTILE (+) | |
| | | < VIBRATOR > | |
| XT701 | 1-527-997-21 | VIBRATOR, CRYSTAL (32KHz) | |

************************************************************

9-957-003-11

Sony Corporation
Audio Group

English
92C0460-1
Printed in Japan

© 1992. 3

Published by Customer Relations and Service Group

# TC-H2700/H3700

6044

# SERVICE MANUAL

*AEP Model*
*UK Model*
TC-H2700/H3700

*E Model*
*Australian Model*
*Tourist Model*
TC-H2700

SONY
AUTO REVERSE
AUTO REVERSE
A PLAY
REC/PLAY B

Discard TC-H3700
Service Manual
(No. 9-956-999-11)
Priviously issued.
This Service Manual
contains it.

This set is the cassette deck section in FH-E757, MHC-2700/3700.

| | | | |
|---|---|---|---|
| Model Name Using Similar Mechanism | | | TC-H2600/H6600 |
| Tape Transport Mechanism Type | | DECK A | TCM-190RA13A |
| | EXCEPT H3700: UK, G | DECK B | TCM-190RB22A |
| | H3700 : UK, G | DECK B | TCM-190RB12A |

• G : Germany model

## SPECIFICATIONS

| | |
|---|---|
| Recording system | 4-track 2-channel stereo |
| Frequency response | (DOLBY NR OFF)<br>40 — 13,000 Hz (±3 dB), using TYPE I cassette (Sony HF-S)<br>40 — 14,000 Hz (±3 dB), using TYPE II cassette<br>40 — 15,000 Hz (±3 dB) using TYPE IV cassette |
| Wow and flutter | 0.1% WRMS ±0.3% (DIN) |
| Inputs | PHONO (phono jacks): sensitivity 2.5 mV, impedance 47 kilohms<br>DAT (phono jacks): sensitivity 450 mV, impedance 47 kiolhms<br>VIDEO (phono jacks): sensitivity 300 mV, impedance 47 kilohms |

Design and specifications subject to change without notice.

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
"DOLBY", the double-D symbol ▯▯, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

MICROFILM

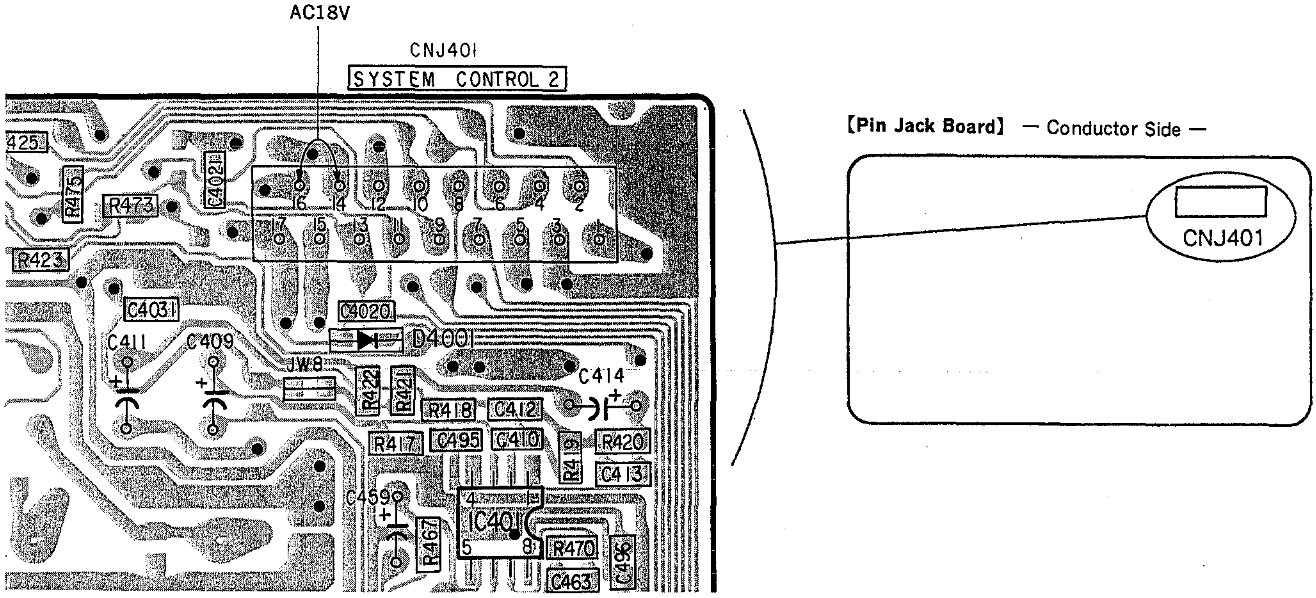
## STEREO CASSETTE DECK

SONY®

6044

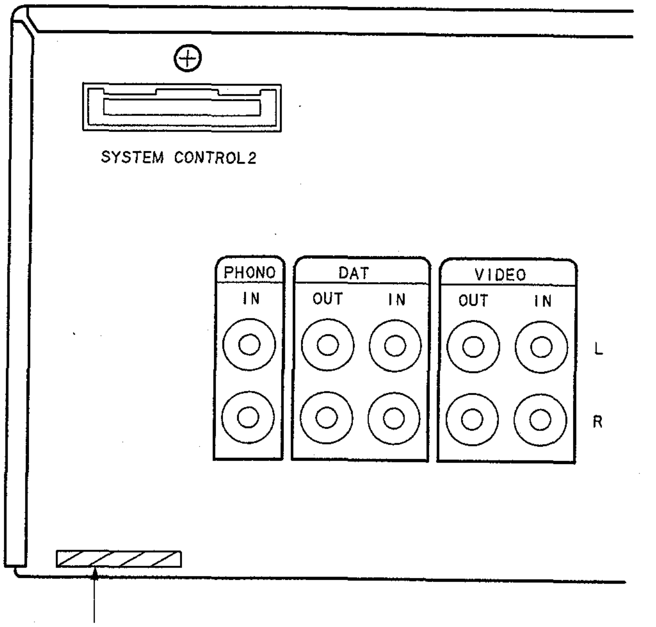
## CAUTION WHEN REPAIRING

Normally the power of this set is supplied from the TA-H2700/H3700 amplifier connected. When only this set is repaired, connect the power of 18V AC as shown in the figure below.


AC18V
CNJ401
SYSTEM CONTROL 2
[Pin Jack Board] — Conductor Side —
CNJ401
R425
R475
R473
C402
R423
C403
C411
C409
C4020
D4001
JW8
R422
R421
C414
R418
C412
R417
C495
C410
R419
R420
C413
C459
R467
IC401
R470
C496
C463

## MODEL IDENTIFICATION

### — BACK PANEL —


SYSTEM CONTROL2
PHONO
IN
DAT
OUT
IN
VIDEO
OUT
IN
L
R

3-374-471-21 (AE) : H3700: AEP model
3-374-471-31 (AE4): H3700: Germany model
3-374-471-41 (AE) : H2700: AEP, UK, E, Australian, Tourist model
3-374-471-51 (AE4): H2700: Germany model
3-375-041-51 (UK) : H3700: UK model

## TABLE OF CONTENTS

*Section* *Title* *Page*

**1. GENERAL**

1-1. Part Identification ................................ 3

**2. DISASSEMBLY** ................................... 4

**3. MECHAINICAL ADJASTMENTS** .................. 6

**4. ELECTRICAL ADJUSTMENTS** ................... 6

**5. DIAGRAMS**

5-1. IC Pin Description .............................. 10
5-2. Semiconductor Lead Layouts .................... 14
5-3. Block Diagram ..................................... 15
5-4. Circuit Boards Location ........................ 18
5-5. Schematic Diagram —Main Section— ............ 19
5-6. Printed Wiring Boards —Main Section— ........ 23
5-7. Schematic Diagram —Pin Jack Section— ........ 27
5-8. Printed Wiring Boards —Pin Jack Section— ...... 31
5-9. Printed Wiring Board
—MD Section (H3700 : UK, Germany)— .......... 34
5-10. Schematic Diagram
—MD Section (H3700 : UK, Germany)— .......... 35

**6. EXPLODED VIEWS**

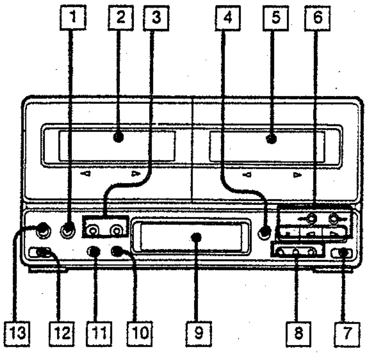
6-1. Cabinet Section ................................ 39
6-2. Cassette Holder Section.......................... 40
6-3. Mechanism deck Section 1 ...................... 41
6-4. Mechanism deck Section 2 ...................... 42

**7. ELECTRICAL PARTS LIST** ...................... 43

# SECTION 1
# GENERAL

This section is extracted from instruction manual.

## 1-1. PARTS IDENTIFICATION

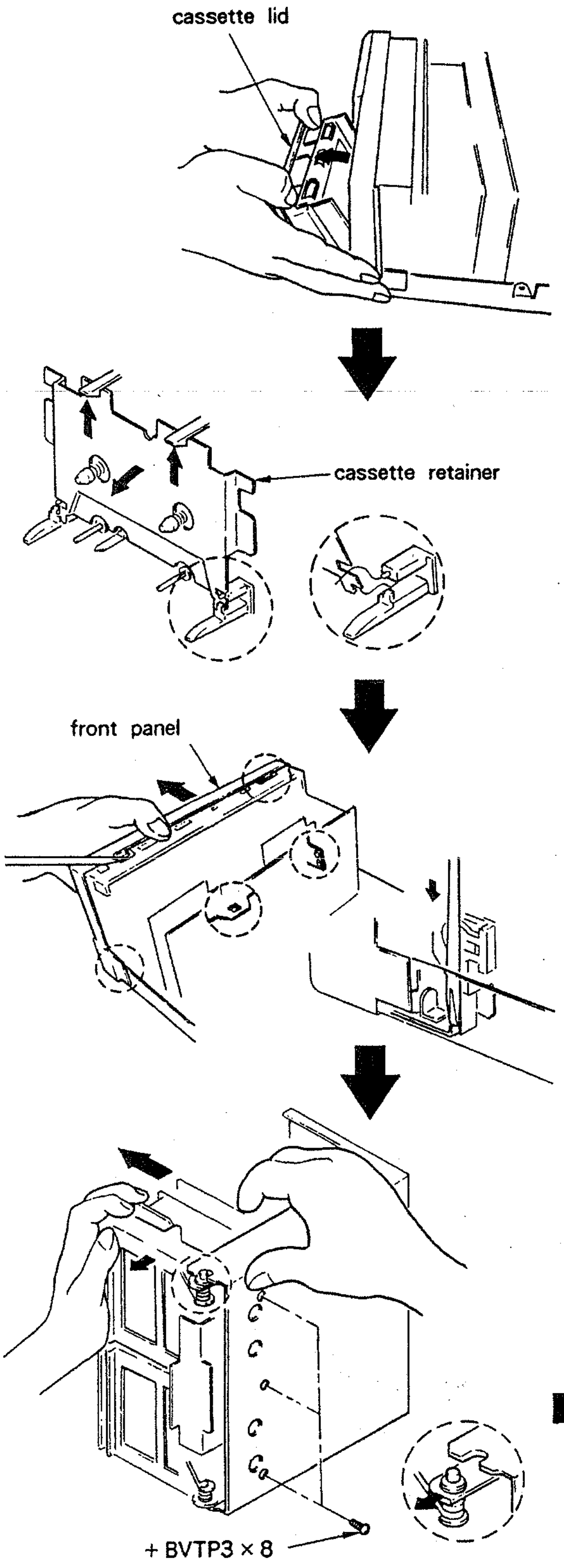


1 CD SYNCHRO (CD synchronized recording) button and indicator ㊺ ㊽
2 Cassette holder (Deck A)
3 DECK A/B selector ㉚
4 COUNTER RESET button ㉚
Resets the counter of the cassette deck to "0".
5 Cassette holder (Deck B)
6 Tape operation buttons (for Deck A and B)
AMS ◀◀ ▶▶ : Fast winding
■ : Stop
▷ : Forward play
◁ : Reverse play
7 ⏏ EJECT button (Deck B)
8 Tape operation buttons (for Deck B)
❚❚ : PAUSE
○ : MUTE (Muting)
● : REC (recording)
9 Display window
10 DIRECTION MODE selector ㉚ ㉝
11 DOLBY NR (Dolby Noise Reduction) ㉛
12 ⏏ EJECT button (Deck A)
13 DUBBING MODE button and indicator ㊵

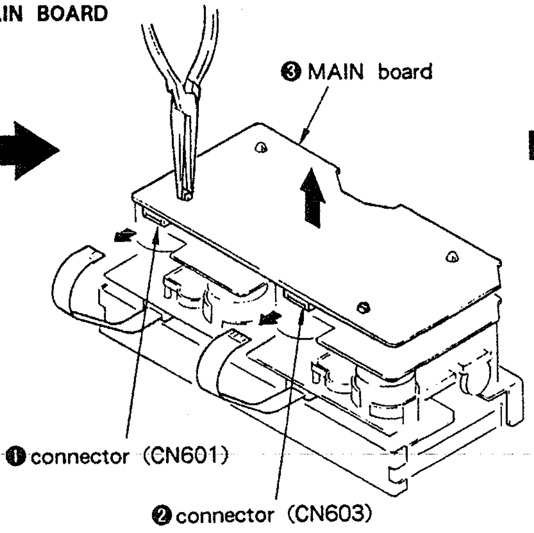
# SECTION 2
# DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given.

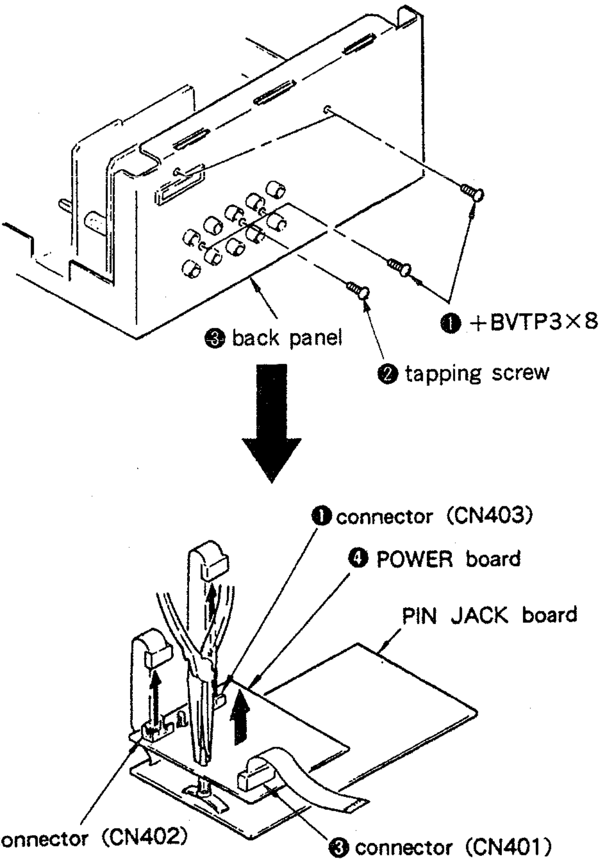
- **FRONT PANEL**


cassette lid
cassette retainer
front panel
+ BVTP3 × 8

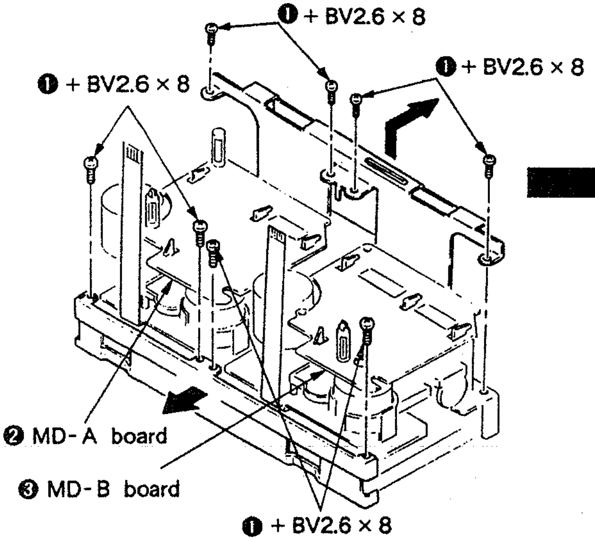
- **MAIN BOARD**


❸ MAIN board
❶ connector (CN601)
❷ connector (CN603)

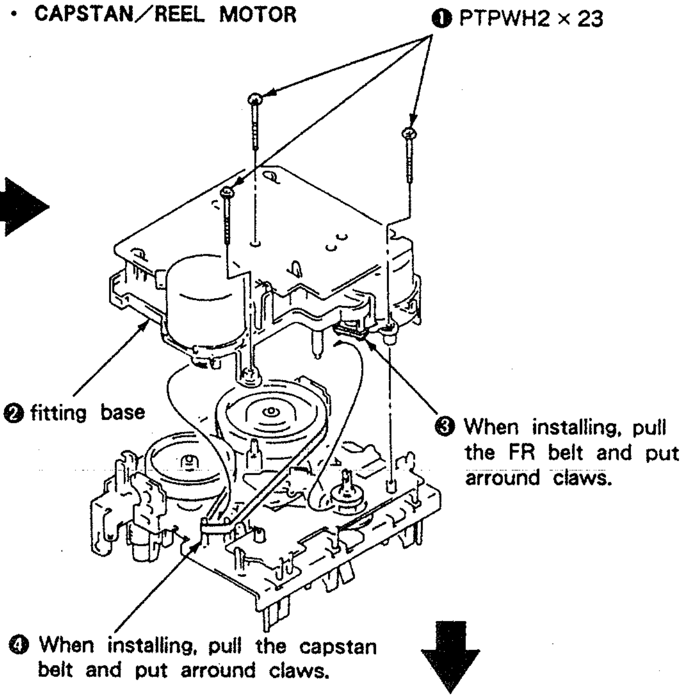
- **PIN JACK/POWER BOARD**

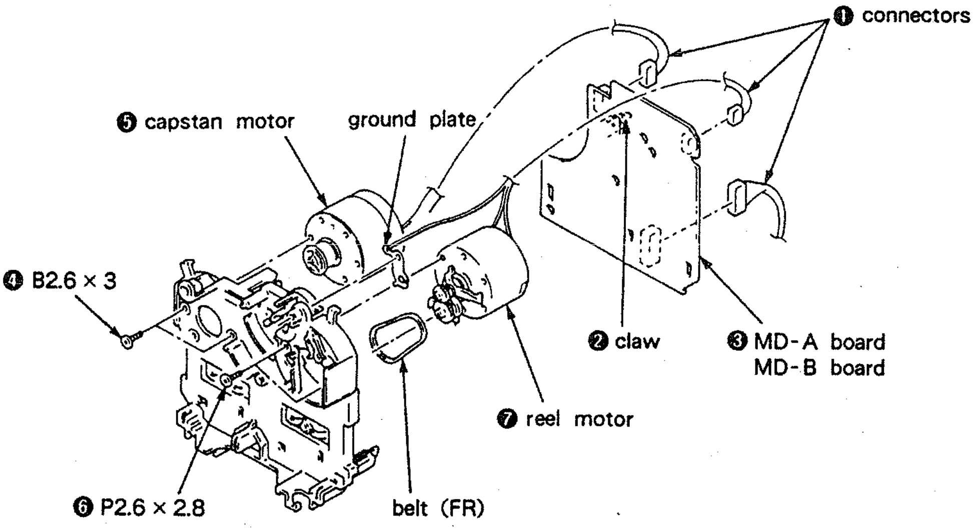

❶ +BVTP3×8
❸ back panel
❷ tapping screw
❶ connector (CN403)
❹ POWER board
PIN JACK board
❷ connector (CN402)
❸ connector (CN401)

· **MECHANISM DECK**

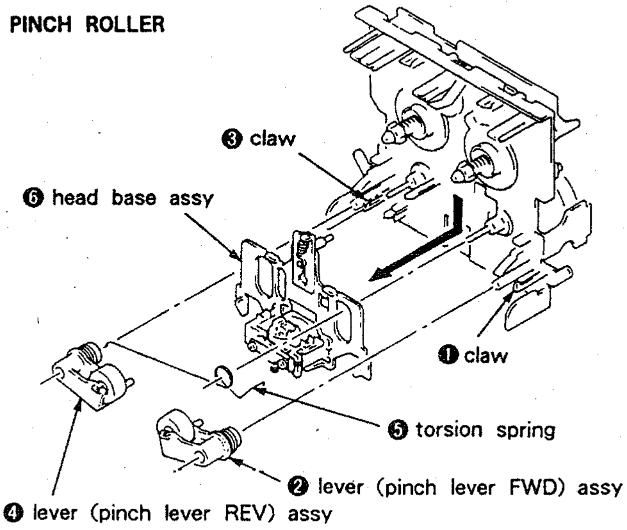

❶ + BV2.6 × 8
❶ + BV2.6 × 8
❶ + BV2.6 × 8
❷ MD-A board
❸ MD-B board
❶ + BV2.6 × 8

· **CAPSTAN／REEL MOTOR**


❶ PTPWH2 × 23
❷ fitting base
❸ When installing, pull the FR belt and put arround claws.
❹ When installing, pull the capstan belt and put arround claws.


❶ connectors
❺ capstan motor
ground plate
❹ B2.6 × 3
❷ claw
❸ MD-A board
MD-B board
❼ reel motor
❻ P2.6 × 2.8
belt (FR)

· **HEAD, PINCH ROLLER**


❸ claw
❻ head base assy
❶ claw
❺ torsion spring
❷ lever (pinch lever FWD) assy
❹ lever (pinch lever REV) assy

# SECTION 3
# MECHANICAL ADJUSTMENTS

## PRECAUTION

1. Clean the following parts with a denatured alcoholmoistened swad:

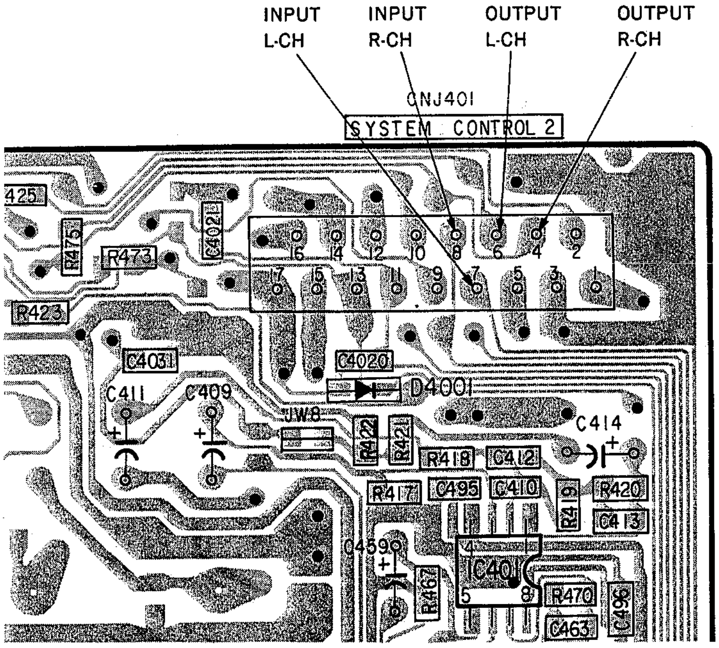
| | |
|---|---|
| record/playback head | pinch roller |
| erase head | rubber belts |
| capstan | idlers |

2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be perfomed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

| Torque | Torque meter | Meter reading |
|---|---|---|
| Forward | CQ-102C | 35 to 60g • cm<br>(0.49 to 0.83 oz • inch) |
| Forward back tension | CQ-102C | 2 to 6g • cm<br>(0.03 to 0.08oz • inch) |
| Reverse | CQ-102RC | 35 to 60g • cm<br>(0.49 to 0.83oz • inch) |
| Reverse back tension | CQ-102RC | 2 to 6g • cm<br>(0.03 to 0.08oz • inch) |
| Forward, Reverse | CQ-201B | 70 to 110g • cm<br>(0.98 to 1.52 oz • inch) |

LINE IN/OUT Terminal (CNJ401)


INPUT L-CH
INPUT R-CH
OUTPUT L-CH
OUTPUT R-CH
CNJ401
SYSTEM CONTROL 2
425
R475
R473
C402
R423
16
14
12
10
8
6
4
2
17
15
13
11
9
7
5
3
1
C4031
C4020
D4001
C411
C409
JW8
R422
R421
C414
R418
C412
R417
C495
C410
R419
R420
C413
C459
R467
IC401
4
5
8
R470
C463
C496

# SECTION 4
# ELECTRICAL ADJUSTMENTS

## PRECAUTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch: OFF

### Test Tape

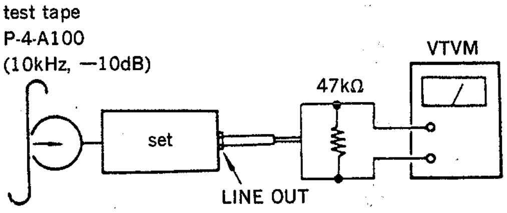
| Tape | Contents | Use |
|---|---|---|
| P-4-A100 | 10kHz, −10dB | Azimuth Adjustment |
| P-4-L300 | 315Hz, 0dB | Level Adjustment |
| WS-48B | 3kHz, 0dB | Tape Speed Adjustment |

### Record/Playback Head Azimuth Adjustment

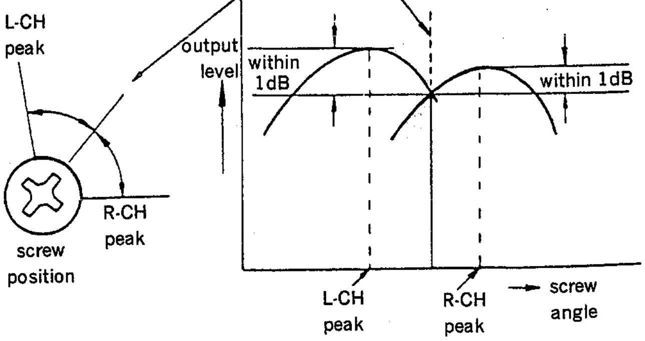
**DECK A** **DECK B**

**Procedure:**

1. Forward Playback Mode

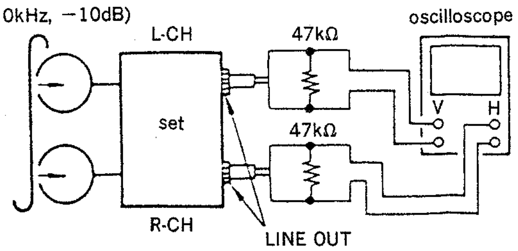

test tape
P-4-A100
(10kHz, −10dB)
VTVM
47kΩ
set
LINE OUT

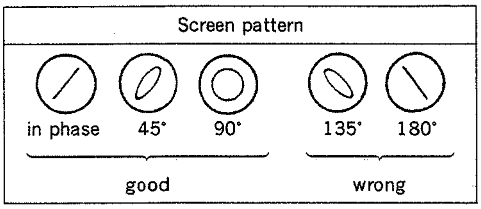
2. Turn the adjustment screw for the maximum output levels. If these levels do notmatch, turn the adjustment screw until both of output levels match together within 1dB.


L-CH peak
output level
within 1dB
within 1dB
R-CH peak
screw position
L-CH peak
R-CH peak
screw angle

3. Playback Mode

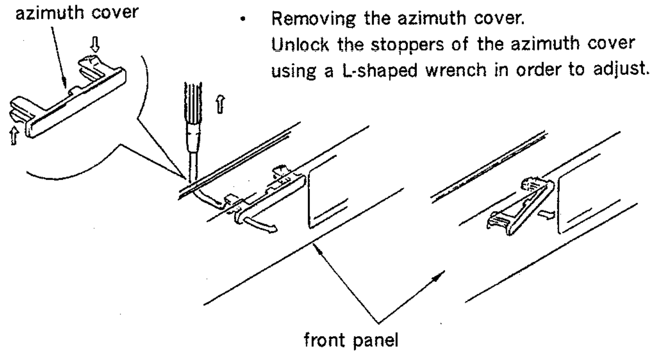
test tape
P-4-A100
(10kHz, −10dB)


L-CH
47kΩ
oscilloscope
set
V
H
47kΩ
R-CH
LINE OUT

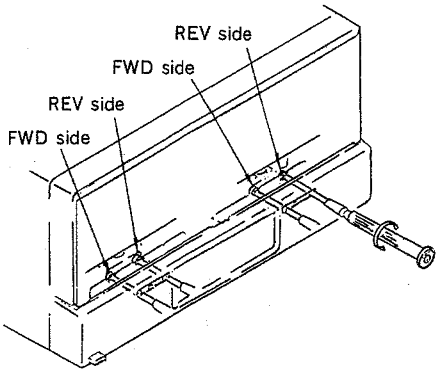

Screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Change the reverse playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

**Adjustment Location :** —record/playback head—


azimuth cover
front panel

- Removing the azimuth cover. Unlock the stoppers of the azimuth cover using a L-shaped wrench in order to adjust.

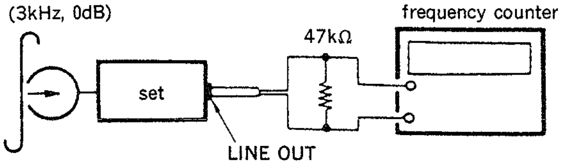

REV side
FWD side
REV side
FWD side

**Tape Speed Adjustment** DECK A DECK B

**Procedure :**

—Forward Playback Mode—

test tape
WS-48B
(3kHz, 0dB)


frequency counter
47kΩ
set
LINE OUT

Perform high speed adjustment before normal speed adjustment.

(High speed adjustment)

1. Short TP601 (main board) when the power is OFF.
2. Turn on the power and put the deck A into the FWD mode.
3. Connect a 150Ω resistor to both the terminals of TP6001 (main board). (The set enters into high speed playback mode.)
4. Adjust RV72A (H) of the deck A so that a reading of the frequency counter meets the adjustment value.
5. Adjust the RV72B (H) of deck B performing steps 2 to 5 as deck A.
6. After the adjustment is completed, remove the short of TP601 and 150Ω resistor of TP6001.

(Normal speed adjustment)

1. Put the set into the FWD playback mode.
2. At this time, adjust RV71A (L) of the deck A and RV71B (L) of the deck B so that a reading of the frequency counter meets the adjustment value.

**Adjustment Limits :**

| Speed | Frequency Counter Reading |
|---|---|
| High | 6,000 ± 20Hz |
| Normal | 3,000 ± 10Hz |

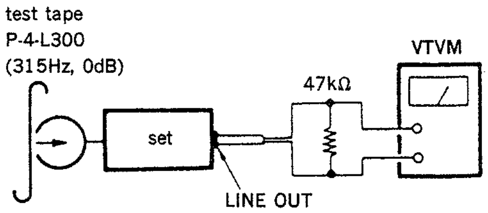
Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

**Adjustment Location :** MD-A Board
MD-B Board (H2700, H3700 : AEP)
MD-B HX PRO Board
(H3700 : UK, Germany)

## Playback Level Adjustment DECK A DECK B

**Procedure:**

—Forward Playback Mode—


test tape
P-4-L300
(315Hz, 0dB)
VTVM
47kΩ
set
LINE OUT

Adjust deck A: RV11A (L-CH), RV21A (R-CH) and deck B: RV11B (L-CH), RV21B (R-CH) so that the VTVM reading becomes the adjustment limits below.

**Adjustment Limits:**

LINE OUT level: −10 ± 0.5dB (0.23 to 0.26V)

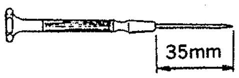
Level Difference between Channels: within 0.5dB

Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

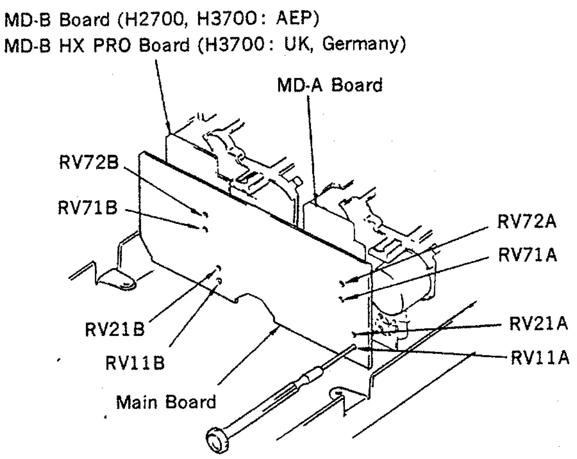
**Adjustment Location:** MD-A Board
MD-B Board (H2700, H3700: AEP)
MD-B HX PRO Board
(H3700: UK, Germany)

## Tape Speed/playback Level Adjustment

Screwdriver to adjust the MD block



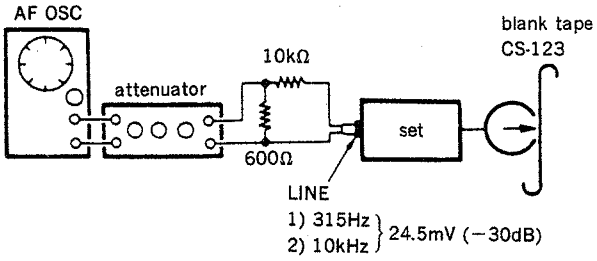
The MD block adjustment can be performed by inserting a screwdriver of which axis length (not including the shaft) is 35 mm or more through the rear side of the main board.


MD-B Board (H2700, H3700: AEP)
MD-B HX PRO Board (H3700: UK, Germany)
MD-A Board
RV72B
RV71B
RV72A
RV71A
RV21A
RV11A
RV21B
RV11B
Main Board

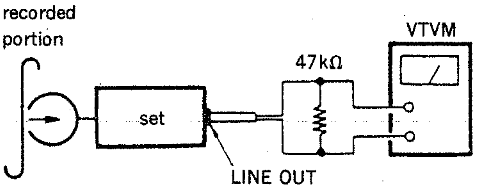
## Record Bias Adjustment DECK B

**Procedure:**

1. Record Mode


AF OSC
attenuator
10kΩ
600Ω
set
blank tape
CS-123
LINE
1) 315Hz
2) 10kHz
24.5mV (−30dB)

2. Playback Mode


recorded
portion
VTVM
47kΩ
set
LINE OUT

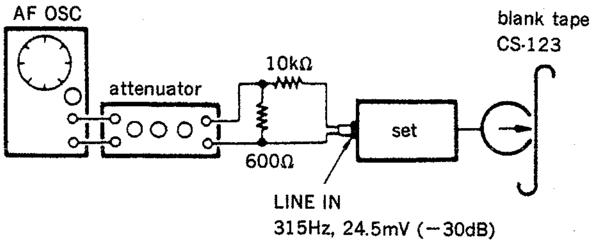
Playback the signal recorded in step 1.
Confirm that the 10kHz playback output is 0 ± 0.5dB (0.732 to 0.821V) relative to the 315Hz output. if necessary. adjust RV12 (L-CH), RV22 (R-CH) (MD-B board (H2700, H3700: AEP)) or RV81 (L-CH), RV91 (R-CH) (MD-B HX PRO board (H3700: UK, Germany)) and repeat the steps given above.

**Adjustment Location:** MD-B Board (H2700, H3700: AEP)
MD-B HX PRO Board
(H3700: UK, Germany)

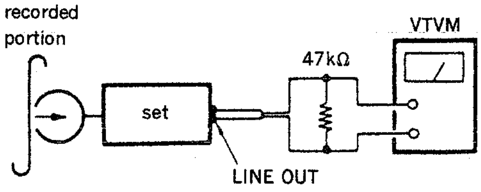
## Record Level Adjustment DECK B

**Procedure :**

1. Record Mode


AF OSC
attenuator
10kΩ
600Ω
set
blank tape
CS-123
LINE IN
315Hz, 24.5mV (−30dB)

2. Playback Mode


recorded
portion
set
47kΩ
VTVM
LINE OUT

Confirm playback the tape recorded become adjustment level as follows.
If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat steps 1 and 2.

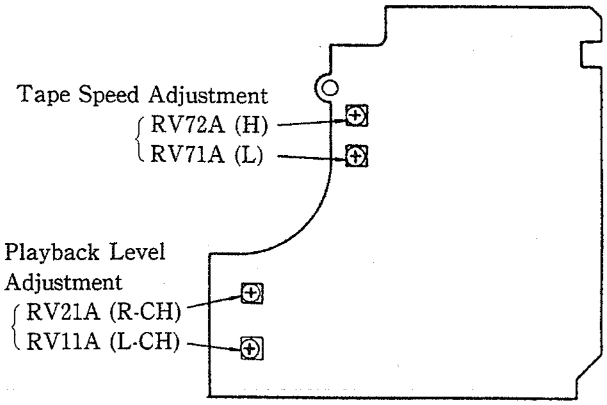
**Adjustment Limits :**

LINE OUT level : −30 ± 0.5dB (23 to 26mV)

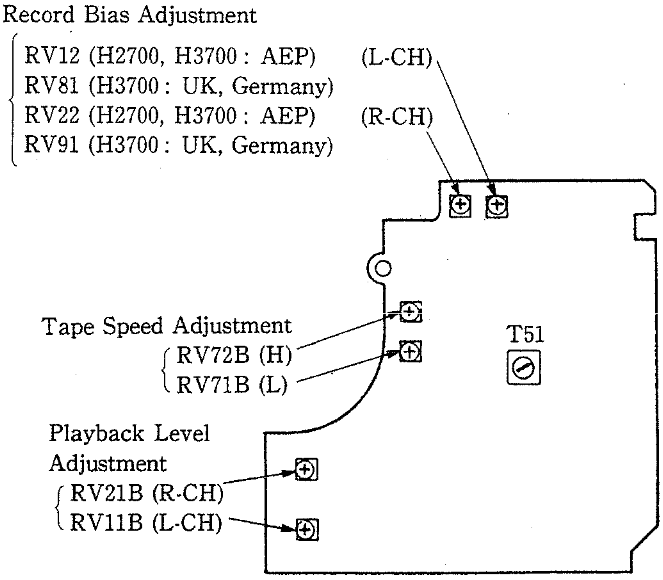
**Adjustment Location :** main board

**Adjustment Location :**

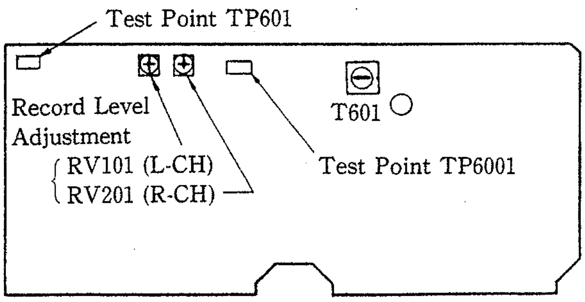
【MD-A Board】 —Component Side—


Tape Speed Adjustment
RV72A (H)
RV71A (L)
Playback Level
Adjustment
RV21A (R-CH)
RV11A (L-CH)

【MD-B Board】 (H2700, H3700 : AEP)
【MD-B HX PRO Board】 (H3700 : UK, Germany)
—Component Side—


Record Bias Adjustment
RV12 (H2700, H3700 : AEP)
RV81 (H3700 : UK, Germany)
(L-CH)
RV22 (H2700, H3700 : AEP)
RV91 (H3700 : UK, Germany)
(R-CH)
Tape Speed Adjustment
RV72B (H)
RV71B (L)
T51
Playback Level
Adjustment
RV21B (R-CH)
RV11B (L-CH)

【Main Board】 —Component Side—


Test Point TP601
Record Level
Adjustment
RV101 (L-CH)
RV201 (R-CH)
T601
Test Point TP6001

# SECTION 5
# DIAGRAMS

## 5-1. IC PIN DESCRIPTION

### IC351 display microprocessor HD614023-FA93

Fluorescent indicator tube is activated by receiving data from IC601 (system controller).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1—11 | S10—S0 | O | FL indicator tube (FL351) segment output |
| 12 | | | Not used. (+5.6V) |
| 13 | VDISP | — | Power supply for activating the FL indicator tube (−20V) |
| 14—15 | | | Not used (GND) |
| 16 | SYNC | I | Interrupt input. Data transmission from IC601 (system controller) is checked. |
| 17 | INT | I | Not used. (GND) |
| 18—25 | | I | Not used. (GND) |
| 26 | $V_{CC}$ | — | Power supply terminal (+5.6V) |
| 27 | CLK | I | Data transmission clock input from IC601 (system controller) |
| 28 | DATA | I | Serial data input from IC601 (system controller) |
| 29 | SYNC | I | Sync signal input which indicates the first byte of data sent from IC601 (system controller) |
| 30 | | — | Not used. (GND) |
| 31 | KEY A | O | LED (D303) light output in the deck A. |
| 32 | KEY B | O | LED (D304) light output in the deck B. |
| 33 | HIGH DUB | O | LED (D301) light output in the high speed dubbing mode. |
| 34 | NORM DUB | O | LED (D301) light output in the normal speed dubbing mode. |
| 35 | CD SYNC | O | LED (D302) light output in the CD synchro mode. |
| 36—38 | | | Not used. (GND) |
| 39 | FLCHECK | I | All the FL indicator tubes are lit when this port is set to "L". (Normally +5.6V) |
| 40—42 | | | Not used. (GND) |
| 43 | RESET | I | Reset input from IC601 (system controller). "L" : Reset. |
| 44 | TEST | I | Not used. (+5.6V) |
| 45 | OSC1 | I | Clock input (4.19MHz) |
| 46 | OSC2 | O | Clock output |
| 47 | GND | — | Power supply terminal (GND) |
| 48—50 | | | Not used. (GND) |
| 51 | | | Not used. (Pull-up) |
| 52—57 | G0—G6 | O | FL indicator tube (FL351) grid output |
| 58—61 | | | Not used. (+5.6V) |
| 62—64 | S11—S13 | O | FL indicator tube (FL351) segment output |

### IC406 selector controller M50760-315FP

AV output is switched with the audio pass signal sent from the amplifier (TA-H2700/H3700).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | D3 | I | Model selection input port. Connected to GND. |
| 2 | A0 | O | Audio IN switch (IC403 and IC404) control output port. |
| 3 | | | Not used. |
| 4 | A1 | O | Audio IN switch (IC403 and IC404) control output port. |
| 5 | CNV$_{SS}$ | — | Power supply terminal (GND) |
| 6 | $V_{SS}$ | — | Power supply terminal (GND) |
| 7 | A2 | O | Audio IN switch (IC403 and IC404) control output port. |
| 8 | B0 | O | Audio OUT switch (IC405) control output port. |
| 9 | B1 | O | Audio OUT switch (IC405) control output port. |
| 10 | | | Not used. |
| 11, 12 | | | Not used. |
| 13, 14 | | | Not used. (GND) |
| 15 | | | Not used. |
| 16 | RESET | I | Reset input. "L" : Reset |
| 17 | XOUT | O | Clock output. |
| 18 | XIN | I | Clock input. |
| 19 | S | I | Serial data input (audio bus) |
| 20 | D2 | I | Serial data input (audio bus) |
| 21 | S1 | I | Model selection input port. Connected to GND. |
| 22 | | | Not used. |
| 23 | VD0 | I | Model selection input port. Connected to GND. |
| 24 | $V_{DD}$ | — | Power supply terminal (+5V) |

### IC601 system controller M50944-128FP

The system is wholly controlled by communication between IC351 (display microcessor) and IC602 (mechanism controller).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | KEY2 | I | Not used. (GND) |
| 2 | KEY1 | I | Not used. (GND) |
| 3 | SYNC | O | Synchro signal input which indicates the first byte of data sent to IC351 (display microprocessor). |
| 4 | FL-SCK | O | Data transmission clock output to IC351 (display microprocessor). |
| 5 | FL-SO | O | Serial date output to IC351 (display microprtcessor). |
| 6 | AU-BUS | O | Audio pass output. |
| 7 | AU-BUS | I | Audio pass input (negative edge). |
| 8 | POWER-IN | I | Power-off detection input. “L” : Power OFF. |
| 9 | PB-SELECT | O | Deck A/B switch output in the playback mode. “L” : deck B, “H” : deck A. |
| 10 | AMS-SELECT | O | AMS amplifier input switch output |
| 11 | MD-REQ | I | Data request input from IC602 (mechanism controller) |
| 12 | MD-SCLK | O | Data transmission clock output to IC602 (mechanism controller) |
| 13 | MD-SO | O | Serial data output to IC602 (mechanism controller) |
| 14 | MD-SI | I | Serial data input from IC602 (mechanism controller) |
| 15 |  | O | Not used. (GND) |
| 16 | RESET (MD) | O | IC602 (mechanism controller) reset signal output. |
| 17 | AU-BUS | I | Audio bus input (positive-edge) |
| 18 | RESET (DSP) | O | IC351 (display microprocessor) reset signal output. |
| 19 | GND | — | Power supply terminal. (GND) |
| 20 | RESET | I | System reset input. “L” : Reset. |
| 21 | X-IN | I | Clock input (4MHz) |
| 22 | X-OUT | O | Clock output |
| 23 | XC-IN | I | Not used. (GND) |
| 24 | XC-OUT | O | Not used. (open) |
| 25 | VSS | — | Power supply terminal (GND) |
| 26 | N. C. |  | Not used. (open) |
| 27 | TEST | I | Electrical adjustment test mode setting input<br>This set enters into the test mode when the power is on and it is set to “L”. ＊1 |
| 28 | VAR SELECT | I | Not used. (pull-up) |
| 29 | METAL (B) | I | Metal switch (S83) input for deck B. “H” : Metal. |
| 30 | 70μ (B) | I | Chrome switch (S82) input for deck B. “L” : Normal. |
| 31 | PPOWER-ON | O | Not used. (opes) |
| 32—35 |  |  | Not used. (GND) |
| 36 | 70μ (A) | I | Chrome switch (S83) input for deck A. “L” : Normal. |
| 37 | AMS IN | I | Signal input from the AMS amplifier. “H” : Detected, “L” : Not detected. |
| 38 | N. C. |  | Not used. (GND) |
| 39 |  |  | Not used. (GND) |
| 40 | EQ-HIGH | O | REC equalizer characteristic switch output<br>“H” : High speed, “L” : Normal speed. |
| 41 | BIAS FADE | O | Not used. (GND) |
| 42 | BIAS (B) | O | Bias ON/OFF switch output. “H” : OFF, “L” : ON. |
| 43 | TYPE II (B) | O | Not used. (GND) |
| 44 | TYPE I (B) | O | Not used. (GND) |
| 45 | R.MUTE (B) | O | REC mute control output. “L” : Mute ON, “H” : Mute OFF. |
| 46 | RELAY (B) | O | Mechanism deck head switch control output. “L” : ON. |
| 47 | DOLBY B | O | Dolby B/C switch control output. “L” : Dolby C, “H” : Dolby B. |
| 48 | DOLBY ON | O | Dolby ON/OFF switch control output. “L” : ON, “H” : OFF. |
| 49 | REC/PB | O | Dolby amplifier REC/PB switch output. “L” : REC, “H” : PB. |
| 50 |  |  | Not used. (open) |
| 51 | PB 70μ | O | Playback equalizer characterstic switch output. “H” : normal, “L” : chrome/metal. |
| 52 | AMS/BS | O | Not used. |
| 53 | PASS | O | PASS amplifier switch output for LINE OUT. “L” : PASS amplifier, “H” : Through. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 54 | LINE-MUTE | O | Line mute control output. "L" : MUTE OFF, "H" : MUTE ON |
| 55 | AVCC | — | Power supply terminal. (+5V) |
| 56 | VCC | — | Power supply terminal. (+5V) |
| 57 | AVSS | — | Power supply terminal (GND) |
| 58 | V.REF | I | Reference voltage input for A/D input port (+5V) |
| 59 | METER (R) | I | Level meter signal input (R-CH) |
| 60 | METER (L) | I | Level meter signal input (L-CH) |
| 61 | VOL DATA | I | Not used. (GND) |
| 62 | KEY5 | I | Not used. (GND) |
| 63 | KEY4 | I | Key input. (analog) * 2 |
| 64 | KEY3 | I | Key input. (analog) * 2 |

* 1 Test mode

When the power is on and pin ㉗ is set to "L" Short TP601. (main board), the set enters the electrical adjustment test mode and the followings can be available.

(1) High speed playback

When deck A or B is in the playback mode and a 150Ω resistor is connected to both the terminals of TP6001 (main board), the set can be entered the high speed playback mode.

(2) Source monitor

Recording signals can be monitored through the LINE OUT terminal (see page 6.) because the line short is removed in recording.

(3) Recording memory

Recording memory is set to ON when the tape counter is reset at the record start point.

(4) Mode display

The counter displays as shown in the figure A when the counter mode is set to the deck A and the deck A button of deck A/B switch is pressed, or when the counter mode is the deck B and the deck B button is pressed.

(5) When this terminal is set back to "H" after it is set to the test mode in "L" of the power-on mode, all the FL indicator tubes are lit.

(The mechanism block continues to operate as before it is set to "H".)

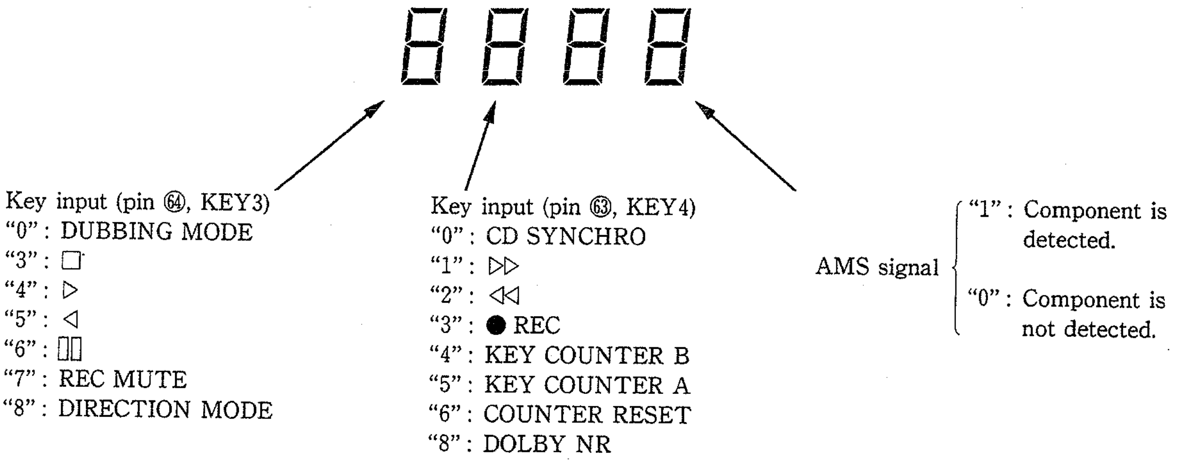

Key input (pin ㊹, KEY3)
"0" : DUBBING MODE
"3" : □
"4" : ▷
"5" : ◁
"6" : ▯▯
"7" : REC MUTE
"8" : DIRECTION MODE
Key input (pin ㊸, KEY4)
"0" : CD SYNCHRO
"1" : ▷▷
"2" : ◁◁
"3" : ● REC
"4" : KEY COUNTER B
"5" : KEY COUNTER A
"6" : COUNTER RESET
"8" : DOLBY NR
AMS signal
"1" : Component is detected.
"0" : Component is not detected.

**Figure A**

* 2 Key input (analog port)

| Voltage(V) / Input port | 0 | 0.3 | 0.7 | 1.2 | 1.7 | 2.3 | 2.8 | 3.3 | 4.0 |
|---|---|---|---|---|---|---|---|---|---|
| Pin ㊸, KEY4 | CD SYNCHRO | ◁◁ | ▷▷ | ●<br>REC | KEY COUNTER B | KEY COUNTER A | COUNTER RESET | | DOLBY NR |
| Pin ㊹, KEY3 | DUBBING MODE | | | □ | ▷ | ◁ | ▯▯<br>PAUSE | ○<br>REC MUTE | DIRECTION MODE |

### IC602 mechanism controller M50925-482FP

The mechanism deck is controlled by receiving data from IC601 (system controller).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | RESET | I | Reset input from IC601 (system controller). “L” : Reset. |
| 2 | STOP-A | I | Deck A stop switch (S81) input. “H” : Stop. |
| 3 | AVSS | — | Power supply terminal (GND) |
| 4 | Vref | I | A/D inpout port reference voltage input. |
| 5 | A/D. IN-B | I | Deck B leaf switch input (analog). ∗ 1 |
| 6 | A/D. IN-A | I | Deck A leaf switch input (analog). ∗ 1 |
| 7 | AVDD | — | Power supply terminal. (+5V) |
| 8 | N. C. | | |
| 9 | T. REEL-B | I | Not used. (GND) |
| 10 | S. REEL-B | I | Deck B supply reel table sensor (IC81) |
| 11 | T. REEL-A | I | Not used. (GND) |
| 12 | S. REEL-A | I | Deck A supply reel table sensor (IC81) |
| 13, 14 | N. C. | | |
| 15 | CM. ON-A | O | Deck A capstan motor (M102) ON/OFF control output. “L” : OFF, “H” : ON. |
| 16 | CM. ON-B | O | Deck B capstan motor (M102) ON/OFF control output. “L” : OFF, “H” : ON. |
| 17 | GND | — | Power supply terminal. (GND) |
| 18 | VSS | — | Power supply terminal. (GND) |
| 19 | CM. H/L | O | Capstan motor (M102) speed switch output. “H” : High speed, “L” : Normal. |
| 20 | FWD-B | O | Deck B reel motor control output. ∗ 2<br>The reel motor is activated by combining these three outputs. |
| 21 | FF-B | O | |
| 22 | TRIG-B | O | |
| 23 | FWD-A | O | Deck A reel motor control output. ∗ 2<br>The reel motor is activated by combining these three outputs. |
| 24 | FF-A | O | |
| 25 | TRIG-A | O | |
| 26 | N. C. | | |
| 27 | S. REQ | O | Data request output to IC601 (system controller). |
| 28 | S. CLK | I | Data transmission clock input from IC601 (system controller). |
| 29 | S. OUT | O | Serial data output to IC601 (system controller). |
| 30 | S. IN | I | Serial data input from IC601 (system controller). |
| 31, 32 | N. C. | | |
| 33 | XOUT | O | Clock output. |
| 34 | XIN | I | Clock input. |
| 35 | STOP-B | I | Deck B stop switch (S81) input. “H” : Stop. |
| 36 | VDD | — | Power supply terminal. (+5V) |

∗ 1 HALF, REC safety tab leaf switch input

| Voltage(V) / Leaf switch | 1 | 1.9 | 2.8 | 3.9 | 5 |
|---|---|---|---|---|---|
| Harf S86 | ON | | | | OFF |
| REC safety tab, side A S84 | OFF | ON | OFF | ON | OFF |
| REC safety tab, side B S85 | ON | ON | OFF | OFF | OFF |
| | ↑<br>REC available for only side B. | ↑<br>REC available for both sides | ↑<br>REC inhibit for both sides A and B. | ↑<br>REC available for only side A. | ↑<br>Tape is not set. |

Tape is set.

∗ 2 Reel motor drive

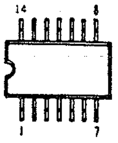
| Mode / Output port | FF | TRIG (kick) | STOP | FWD |
|---|---|---|---|---|
| Pins ㉑and㉔ FF | L | H | L | L |
| Pins ㉒and㉕ TRIG | H | L | L | H |
| Pins ⑳and㉓ FWD | H | H | L | L |

Reel motor drive amplifier output voltage

| Output | Voltage |
|---|---|
| TRIG | +6V |
| FF, REW | −5V |
| FWD | −3V |

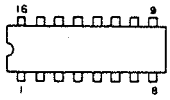
## 5-2. SEMICONDUCTOR LEAD LAYOUTS

**BA3308F**
**CD4066BCM**



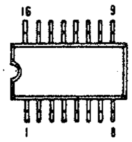
(TOP VIEW)

**BA7625**
**HD14053BFP**



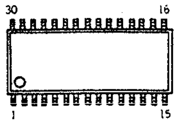
(TOP VIEW)

**CD4052BCM**
**CXA1578M**
**MC14051BF**



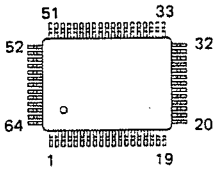
(TOP VIEW)

**CXA1331M**



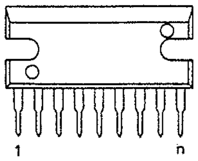
(TOP VIEW)

**HD614023-FA93**
**M50944-128FP**

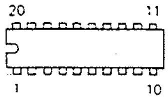

51
33
52
32
64
20
1
19

(TOP VIEW)

**LA5603-S**

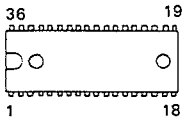


**M50760-315FP**



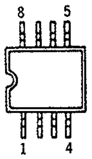
(TOP VIEW)

**M50925-482FP**



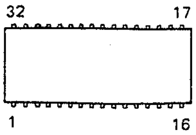
(TOPVIEW)

**M51953BFP**
**μPC4570G2**

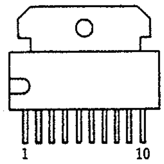


(TOP VIEW)

**M5218AFP**

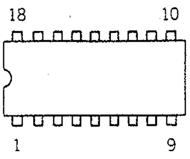


**TA7272P**



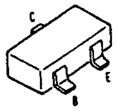
marking side view

**μPC1297CA**

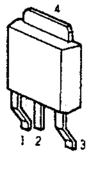


(TOP VIEW)

**FA1A4M-L33**
**FA1A4Z-L68**
**2SA1162**
**2SA1602-F**
**2SC3395**
**2SC4154-F**

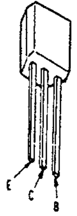


**2SA1341**

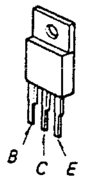


1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

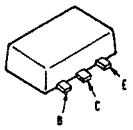
**2SA1344**



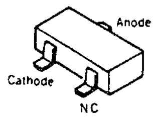
**2SB1094-LK**
**2SD2012**



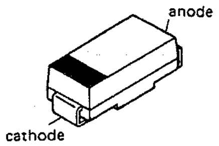
**2SB1122-S**
**2SD1622-S**



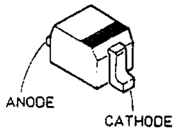
**DCA010**


Anode
Cathode
NC

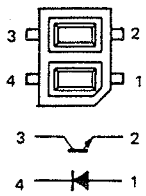
**EC10DS2**
**EC10QS-04**


anode
cathode

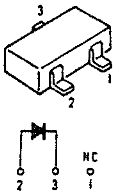
**MA8056**
**1SS352**


ANODE
CATHODE

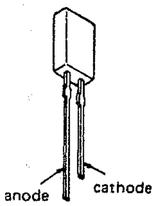
**NJL5165K-B**



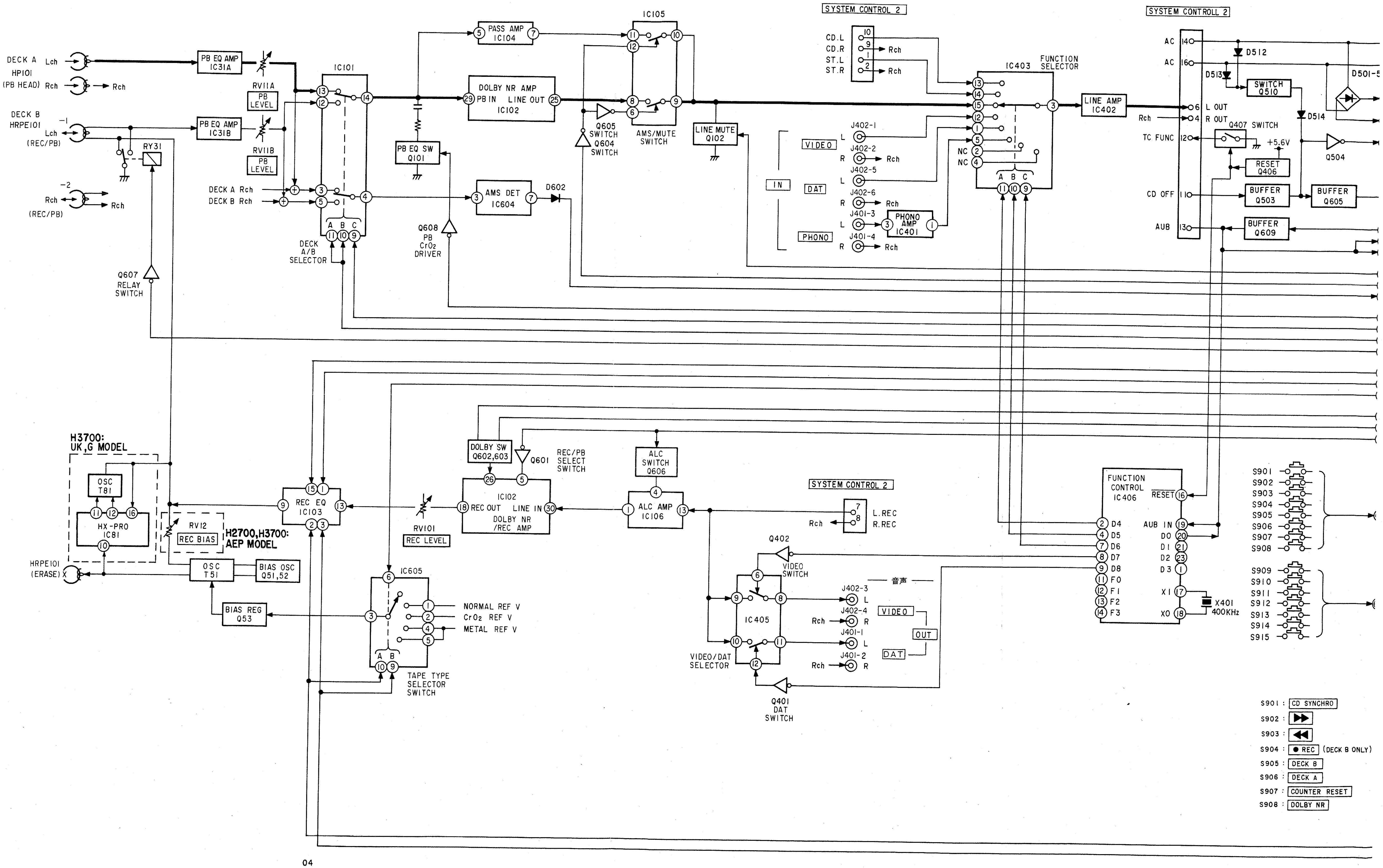
**UZM8.2Z**



**SEL4226C**
**SEL4226E**

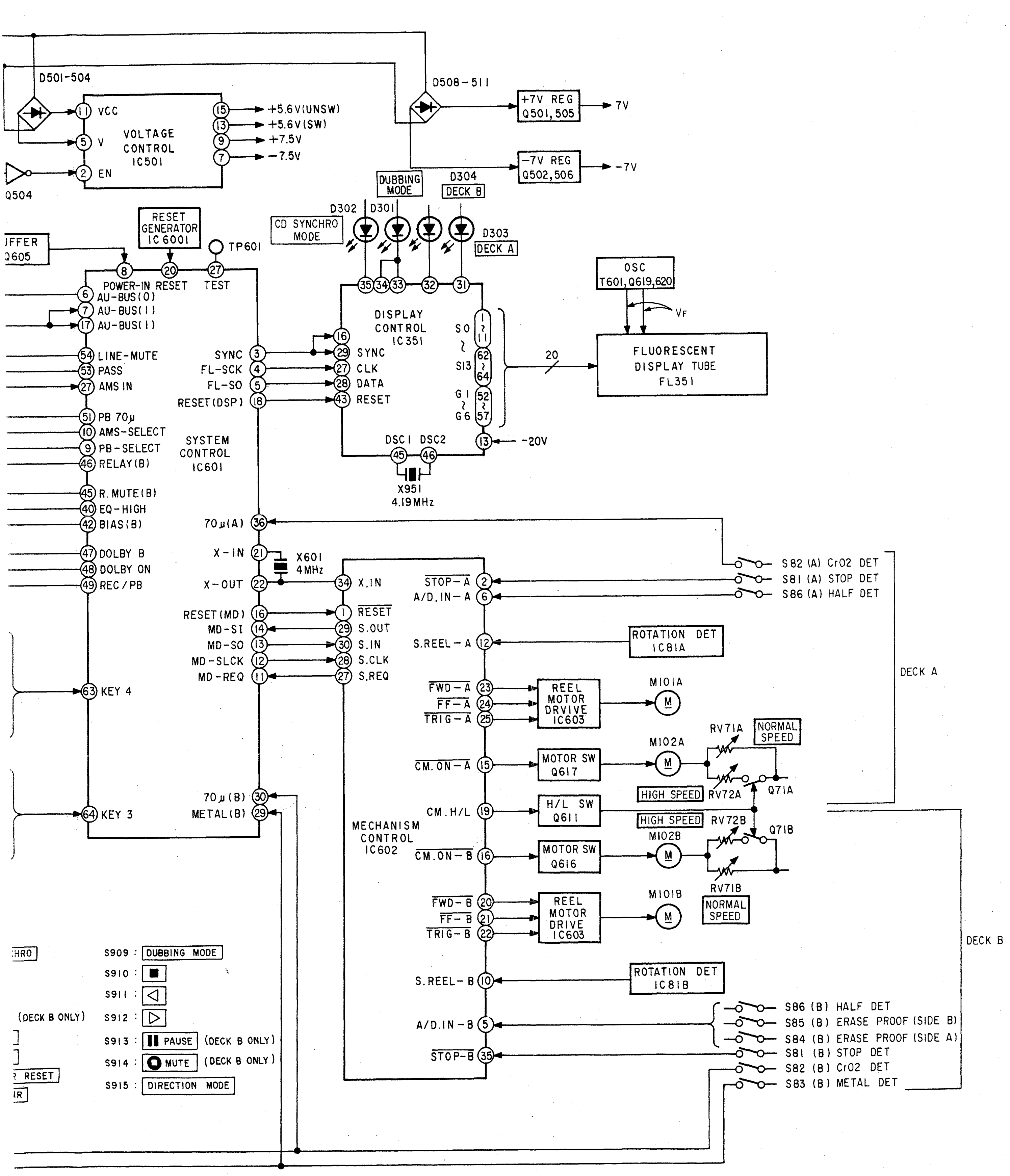

anode
cathode

## 5-3. BLOCK DIAGRAM


DECK A Lch
HP101
(PB HEAD) Rch
DECK B
HRPE101
Lch
(REC/PB)
-1
-2
Rch
RY31
Q607 RELAY SWITCH
PB EQ AMP IC31A
PB EQ AMP IC31B
RV11A PB LEVEL
RV11B PB LEVEL
IC101
DECK A Rch
DECK B Rch
DECK A/B SELECTOR
A B C
PASS AMP IC104
DOLBY NR AMP PB IN LINE OUT IC102
PB EQ SW Q101
Q608 PB CrO2 DRIVER
AMS DET IC604
D602
IC105
Q605 SWITCH
Q604 SWITCH
AMS/MUTE SWITCH
LINE MUTE Q102
SYSTEM CONTROL 2
CD.L
CD.R
ST.L
ST.R
Rch
IN
VIDEO
DAT
PHONO
J402-1
J402-2
J402-5
J402-6
J401-3
J401-4
PHONO AMP IC401
IC403 FUNCTION SELECTOR
NC
LINE AMP IC402
SYSTEM CONTROLL 2
AC
TC FUNC
CD OFF
AUB
L OUT
R OUT
D512
D513
D514
SWITCH Q510
Q407 SWITCH
+5.6V
RESET Q406
BUFFER Q503
BUFFER Q605
BUFFER Q609
Q504
D501-5
H3700: UK,G MODEL
OSC T81
HX-PRO IC81
RV12 REC BIAS
H2700,H3700: AEP MODEL
HRPE101 (ERASE)
OSC T51
BIAS OSC Q51,52
BIAS REG Q53
REC EQ IC103
IC605
NORMAL REF V
CrO2 REF V
METAL REF V
TAPE TYPE SELECTOR SWITCH
RV101 REC LEVEL
DOLBY SW Q602,603
Q601 REC/PB SELECT SWITCH
IC102 REC OUT LINE IN DOLBY NR /REC AMP
ALC SWITCH Q606
ALC AMP IC106
SYSTEM CONTROL 2
L.REC
R.REC
Q402 VIDEO SWITCH
IC405
VIDEO/DAT SELECTOR
Q401 DAT SWITCH
音声
J402-3
J402-4
J401-1
J401-2
VIDEO
OUT
DAT
FUNCTION CONTROL IC406
RESET
AUB IN
D4 D5 D6 D7 D8 F0 F1 F2 F3
D0 D1 D2 D3
X1 X0
X401 400KHz
S901 S902 S903 S904 S905 S906 S907 S908
S909 S910 S911 S912 S913 S914 S915

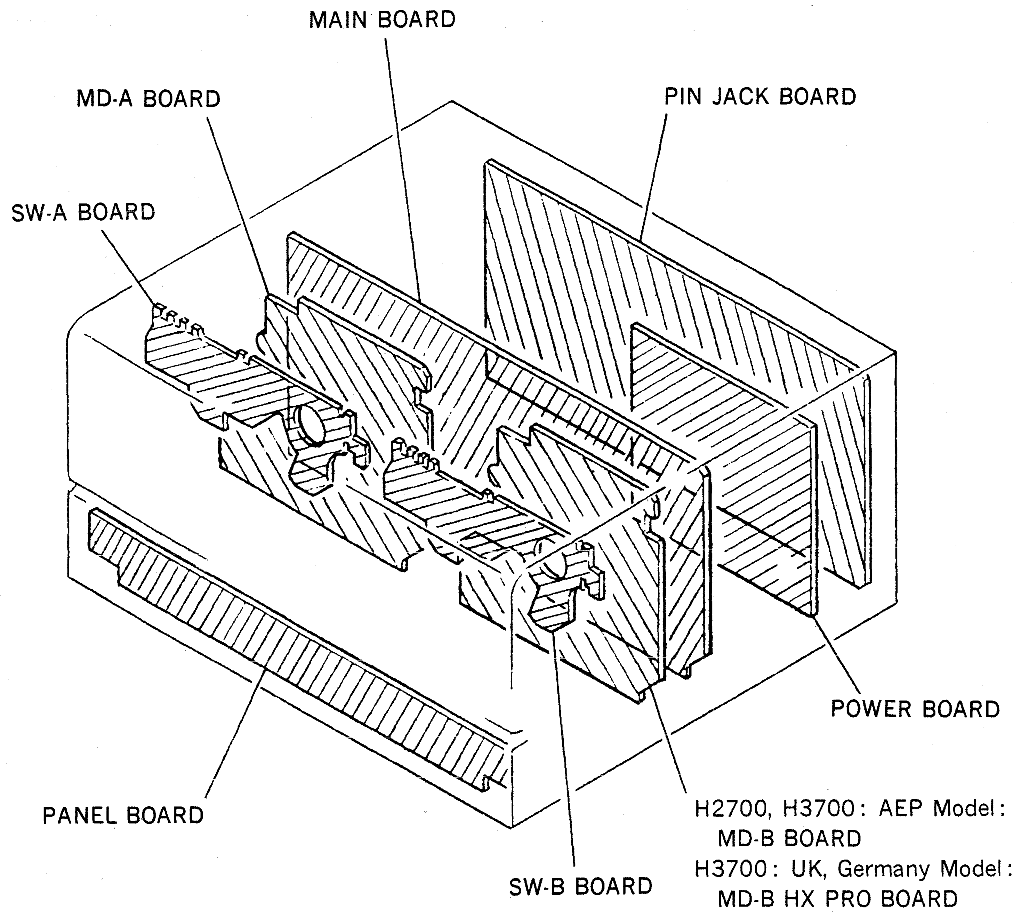
S901 : CD SYNCHRO
S902 : ▶▶
S903 : ◀◀
S904 : ● REC (DECK B ONLY)
S905 : DECK B
S906 : DECK A
S907 : COUNTER RESET
S908 : DOLBY NR

04



D501-504
VCC
VOLTAGE CONTROL IC501
V
EN
Q504
+5.6V(UNSW)
+5.6V(SW)
+7.5V
−7.5V
D508-511
+7V REG Q501,505
7V
−7V REG Q502,506
−7V
DUBBING MODE
D304
DECK B
D302
D301
CD SYNCHRO MODE
D303
DECK A
RESET GENERATOR IC6001
TP601
JFFER
Q605
POWER-IN RESET
TEST
AU-BUS(0)
AU-BUS(1)
AU-BUS(1)
LINE-MUTE
PASS
AMS IN
PB 70μ
AMS-SELECT
PB-SELECT
RELAY(B)
R.MUTE(B)
EQ-HIGH
BIAS(B)
DOLBY B
DOLBY ON
REC/PB
KEY 4
KEY 3
SYSTEM CONTROL IC601
SYNC
FL-SCK
FL-SO
RESET(DSP)
DISPLAY CONTROL IC351
SYNC
CLK
DATA
RESET
S0 ~ S11
S13 ~ 64
G1 ~ G6
DSC1 DSC2
X951 4.19MHz
−20V
OSC T601,Q619,620
VF
20
FLUORESCENT DISPLAY TUBE FL351
70μ(A)
X-IN
X601 4MHz
X-OUT
RESET(MD)
MD-SI
MD-SO
MD-SLCK
MD-REQ
70μ(B)
METAL(B)
X.IN
RESET
S.OUT
S.IN
S.CLK
S.REQ
MECHANISM CONTROL IC602
STOP-A
A/D.IN-A
S.REEL-A
FWD-A
FF-A
TRIG-A
CM.ON-A
CM.H/L
CM.ON-B
FWD-B
FF-B
TRIG-B
S.REEL-B
A/D.IN-B
STOP-B
S82 (A) CrO2 DET
S81 (A) STOP DET
S86 (A) HALF DET
ROTATION DET IC81A
REEL MOTOR DRVIVE IC603
M101A
M102A
RV71A
NORMAL SPEED
MOTOR SW Q617
HIGH SPEED
RV72A
Q71A
H/L SW Q611
HIGH SPEED
RV72B
Q71B
M102B
MOTOR SW Q616
REEL MOTOR DRIVE IC603
M101B
RV71B
NORMAL SPEED
DECK A
DECK B
ROTATION DET IC81B
S86 (B) HALF DET
S85 (B) ERASE PROOF (SIDE B)
S84 (B) ERASE PROOF (SIDE A)
S81 (B) STOP DET
S82 (B) CrO2 DET
S83 (B) METAL DET
HRO
(DECK B ONLY)
RESET
IR
S909 : DUBBING MODE
S910 : ■
S911 : ◁
S912 : ▷
S913 : ▌▌PAUSE (DECK B ONLY)
S914 : ● MUTE (DECK B ONLY)
S915 : DIRECTION MODE

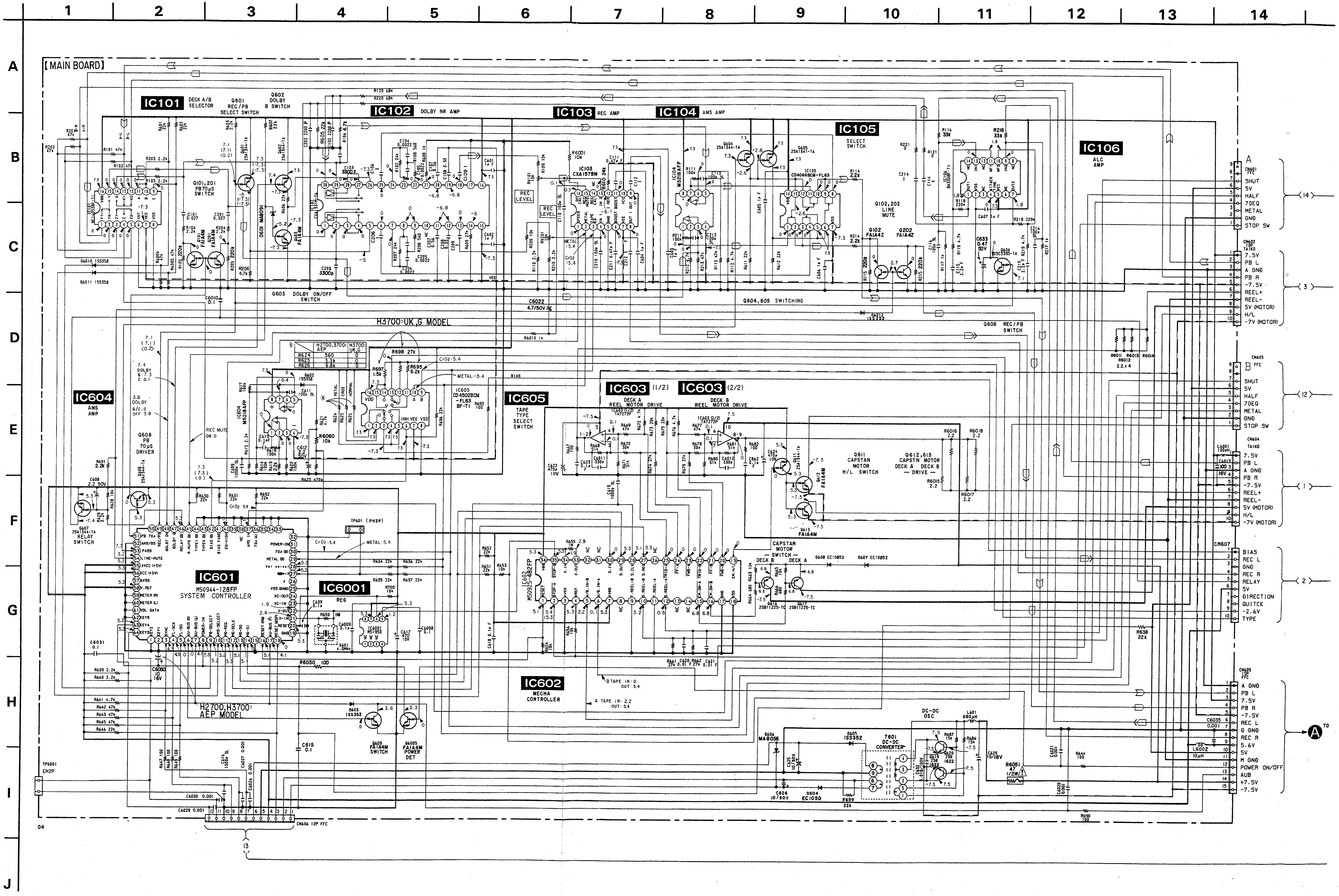
## 5-4. CIRCUIT BOARDS LOCATION

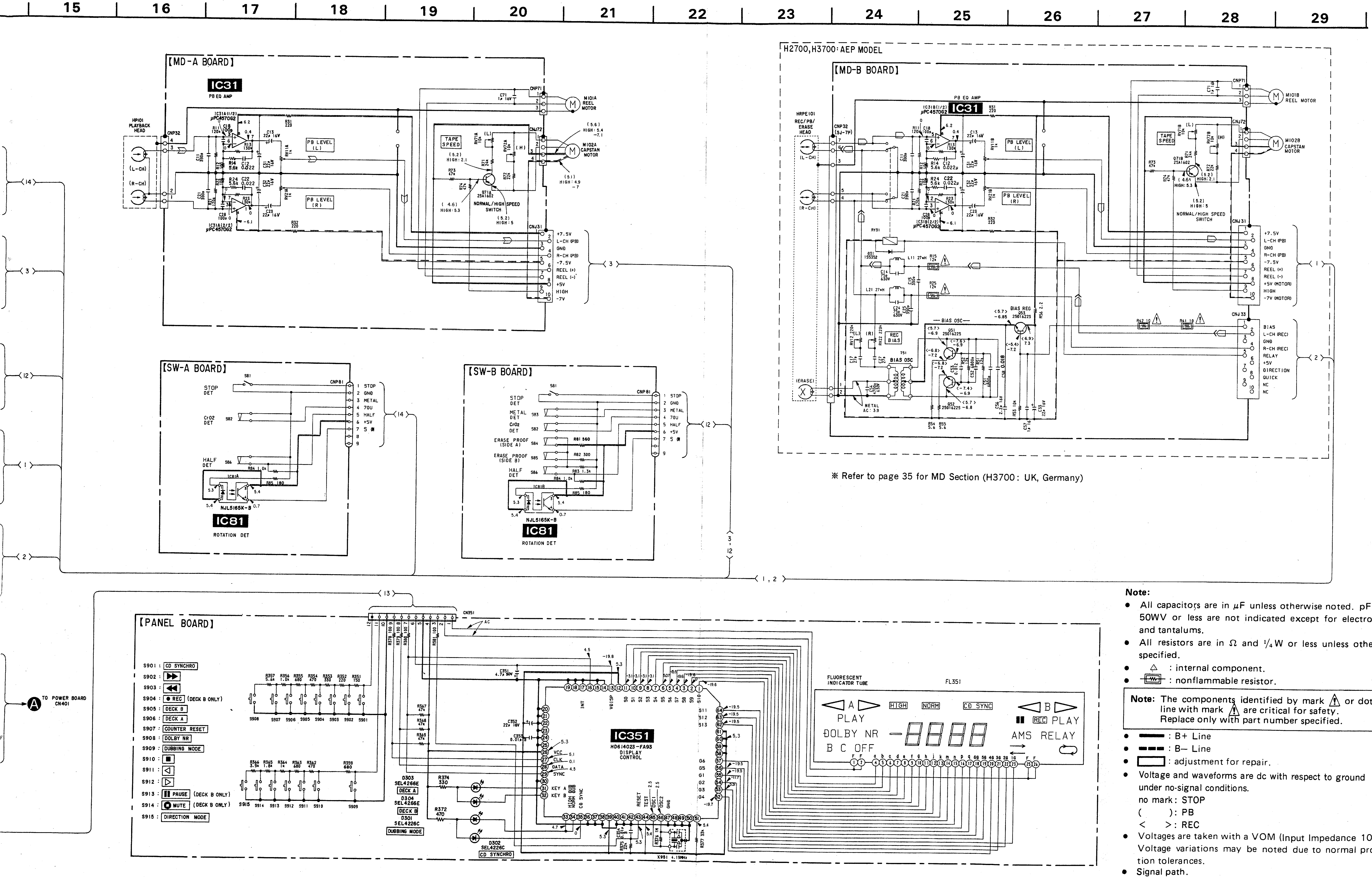


MAIN BOARD
MD-A BOARD
PIN JACK BOARD
SW-A BOARD
POWER BOARD
PANEL BOARD
SW-B BOARD
H2700, H3700 : AEP Model :
MD-B BOARD
H3700 : UK, Germany Model :
MD-B HX PRO BOARD

## 5-5. SCHEMATIC DIAGRAM —MAIN SECTION—

• Refer to page 37 for IC Block Diagrams.


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
[MAIN BOARD]
IC101 DECK A/B SELECTOR
Q601 REC/PB SELECT SWITCH
Q602 DOLBY B SWITCH
IC102 DOLBY NR AMP
IC103 REC AMP
IC103 CXA1578M
IC104 AMS AMP
IC104 M5218AFP
IC105 SELECT SWITCH
IC105 CD4066BCM-FL63
IC106 ALC AMP
Q101,201 PB70μS SWITCH
Q603 DOLBY ON/OFF SWITCH
Q604,605 SWITCHING
Q606 REC/PB SWITCH
Q102,202 LINE MUTE
REC LEVEL
H3700:UK,G MODEL
H2700,3700: AEP | H3700: UK,G
R624 560 0
R625 3.3k 0
R626 6.8k 0
IC604 AMS AMP
IC604 M5218AFP
Q608 PB 70μS DRIVER
Q607 2SA1344-TA RELAY SWITCH
IC605 TAPE TYPE SELECT SWITCH
IC605 CD4502BCM-FL63 BF-T1
IC603 (1/2) DECK A REEL MOTOR DRIVE
IC603 (2/2) DECK B REEL MOTOR DRIVE
Q611 CAPSTAN MOTOR H/L SWITCH
Q612,613 CAPSTAN MOTOR DECK A DECK B — DRIVE —
Q613 FA1A4M
CAPSTAN MOTOR — SWITCH — DECK B DECK A
Q616 2SB1225-TC
Q617 2SB1225-TC
IC601 M50944-128FP SYSTEM CONTROLLER
IC6001 REG
IC6001 M51953
X601 4.0MHz
TP601 (PH2P)
IC602 M50925-482FP
IC602 MECHA CONTROLLER
B TAPE IN: 0 OUT: 5.4
A TAPE IN: 2.2 OUT: 5.4
H2700,H3700: AEP MODEL
Q603 1SS352
Q609 FA1A4M SWITCH
Q6005 FA1A4M POWER DET
DC-DC OSC
T601 DC-DC CONVERTER
D606 MA6056
D605 1SS352
D604 EC10SQ
TP6001 EH2P
CN601 FFC
SHUT 5V HALF 70EQ METAL GND STOP SW
(14)
CN602 TAIKO
7.5V PB L A GND PB R -7.5V REEL+ REEL- 5V (MOTOR) H/L -7V (MOTOR)
(3)
CN603 FFC
SHUT 5V HALF 70EQ METAL GND STOP SW
(12)
CN604 TAIKO
7.5V PB L A GND PB R -7.5V REEL+ REEL- 5V (MOTOR) H/L -7V (MOTOR)
(1)
CN607
BIAS REC L GND REC R RELAY 5V DIRECTION QUITCK -2.6V TYPE
(2)
CN605 FFC
A GND PB L 7.5V PB R -7.5V REC L 0 GND REC R 5.6V 5V H GND POWER ON/OFF AUB +7.5V -7.5V
A TO
CN606 12P FFC
13


15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
【MD-A BOARD】
IC31
PB EQ AMP
HP101 PLAYBACK HEAD
(L-CH)
(R-CH)
IC31A(1/2) μPC4570G2
IC31A(2/2) μPC4570G2
PB LEVEL (L)
PB LEVEL (R)
TAPE SPEED
NORMAL/HIGH SPEED SWITCH
M101A REEL MOTOR
M102A CAPSTAN MOTOR
+7.5V
L-CH (PB)
GND
R-CH (PB)
-7.5V
REEL (+)
REEL (-)
+5V
HIGH
-7V
H2700,H3700: AEP MODEL
【MD-B BOARD】
HRPE101 REC/PB/ERASE HEAD
IC31B(1/2) μPC4570G2
IC31B(2/2) μPC4570G2
M101B REEL MOTOR
M102B CAPSTAN MOTOR
BIAS OSC
REC BIAS
BIAS REG
(ERASE)
METAL
BIAS
L-CH (REC)
R-CH (REC)
RELAY
DIRECTION
QUICK
NC
+5V (MOTOR)
-7V (MOTOR)
【SW-A BOARD】
STOP DET
CrO2 DET
HALF DET
IC81A
NJL5165K-B
IC81
ROTATION DET
【SW-B BOARD】
METAL DET
ERASE PROOF (SIDE A)
ERASE PROOF (SIDE B)
IC81B
STOP
GND
METAL
70U
HALF
+5V
TO POWER BOARD CN401
【PANEL BOARD】
S901 : CD SYNCHRO
S902 : ▶▶
S903 : ◀◀
S904 : ● REC (DECK B ONLY)
S905 : DECK B
S906 : DECK A
S907 : COUNTER RESET
S908 : DOLBY NR
S909 : DUBBING MODE
S910 : ■
S911 : ◁
S912 : ▷
S913 : ❚❚ PAUSE (DECK B ONLY)
S914 : ○ MUTE (DECK B ONLY)
S915 : DIRECTION MODE
IC351
HD614023-FA93 DISPLAY CONTROL
D303 SEL4266E DECK A
D304 SEL4266E DECK B
D301 SEL4226C DUBBING MODE
D302 SEL4226C CD SYNCHRO
X951 4.19MHz
FLUORESCENT INDICATOR TUBE
FL351
A
PLAY
HIGH
NORM
CD SYNC
B
REC PLAY
DOLBY NR
B C OFF
AMS RELAY

※ Refer to page 35 for MD Section (H3700: UK, Germany)

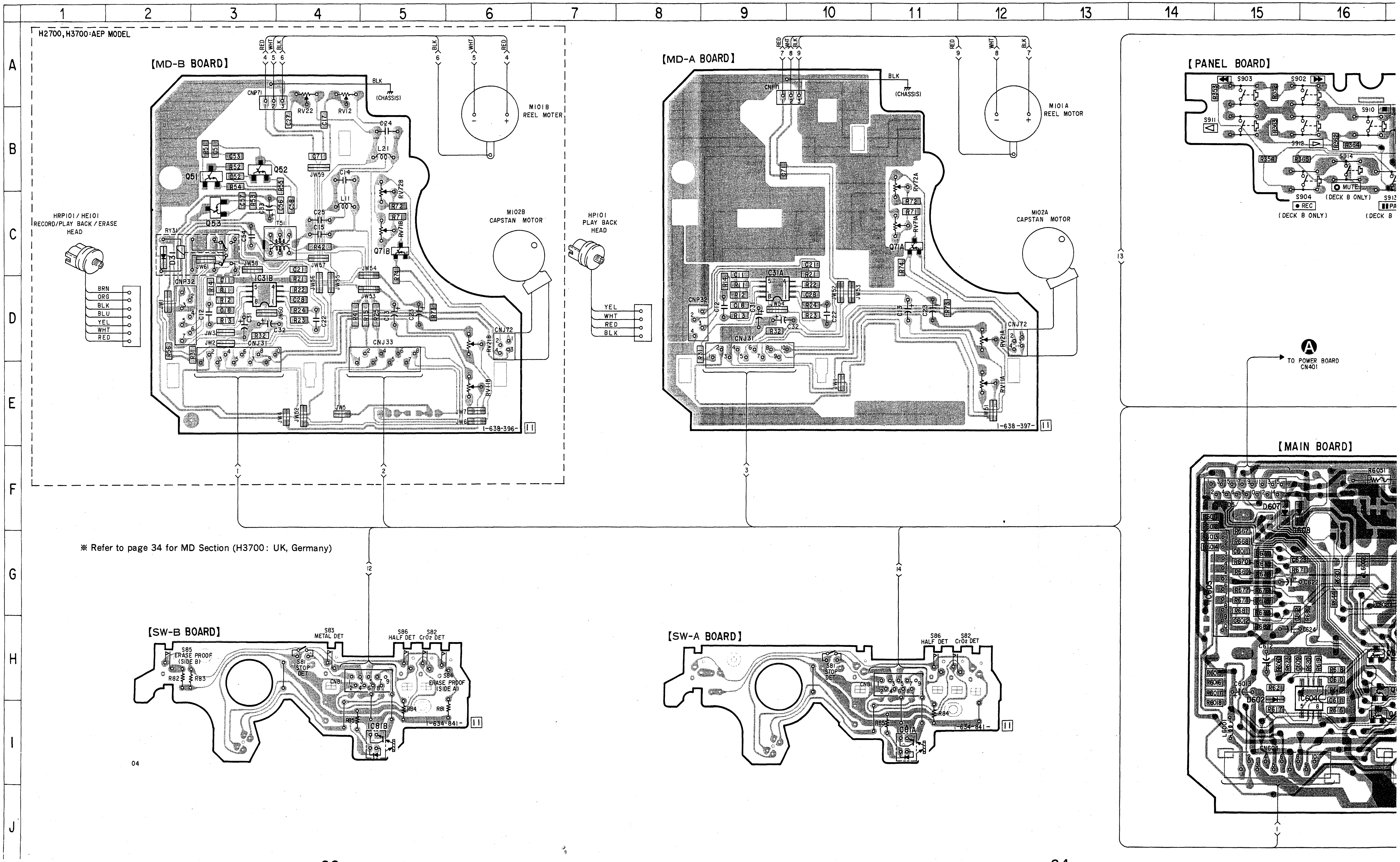
**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.

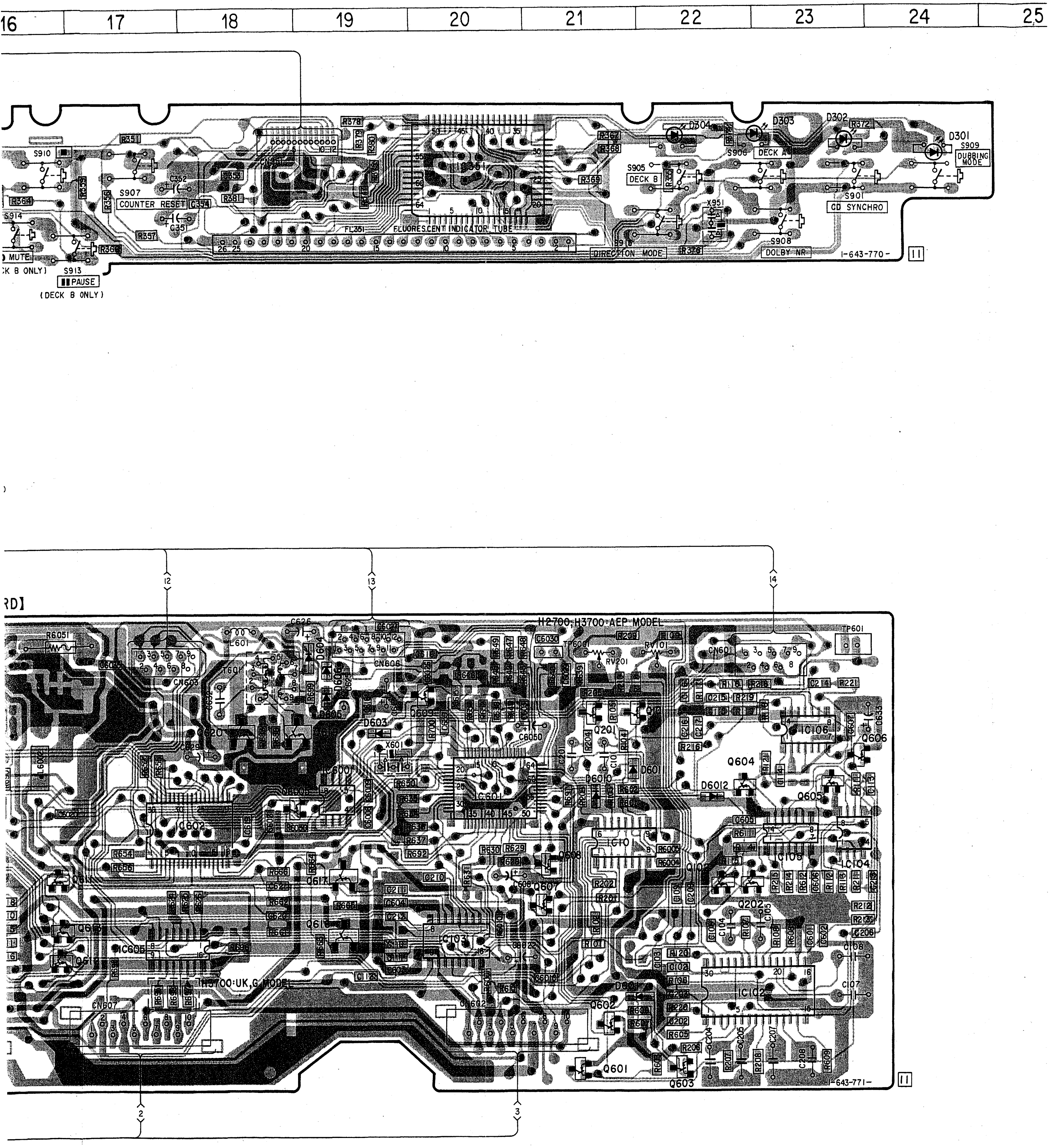
**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ━ : B+ Line
- ━ ━ : B– Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : PB
  < > : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⊐ : PB (DECK A) ⊐⊐ : REC (DECK B)
  ⊐⊐ : REC (DECK A)
- G: Germany model

## 5-6. PRINTED WIRING BOARDS —MAIN SECTION— • Refer to page 14 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
H2700, H3700: AEP MODEL
[MD-B BOARD]
RED
WHT
BLK
BLK
(CHASSIS)
CNP71
RV22
RV12
M101B
REEL MOTER
M102B
CAPSTAN MOTOR
HRP101 / HE101
RECORD/PLAY BACK / ERASE
HEAD
BRN
ORG
BLK
BLU
YEL
WHT
RED
RY31
D31
Q51
Q52
Q53
T51
IC31B
Q71B
RV71B
RV72B
RV21B
RV11B
L11
L21
CNP32
CNJ31
CNJ33
CNJ72
1-638-396-
11
[MD-A BOARD]
M101A
REEL MOTOR
M102A
CAPSTAN MOTOR
HP101
PLAY BACK
HEAD
YEL
WHT
RED
BLK
IC31A
Q71A
RV71A
RV72A
RV21A
RV11A
1-638-397-
11
[PANEL BOARD]
S903
S902
S910
S911
S918
S914
S904
● REC
(DECK B ONLY)
MUTE
(DECK B ONLY)
A
TO POWER BOARD
CN401
[MAIN BOARD]
D607
IC605
IC604
D602
CN604
[SW-B BOARD]
S83
METAL DET
S86
HALF DET
S82
CrO2 DET
S85
ERASE PROOF
(SIDE B)
R82
R83
S81
STOP
DET
CN81
S84
ERASE PROOF
(SIDE A)
R84
R81
R85
IC81B
1-634-841-
11
[SW-A BOARD]
S86
HALF DET
S82
CrO2 DET
S81
STOP
DET
CN81
R84
R85
IC81A
1-634-841-
11
04

※ Refer to page 34 for MD Section (H3700: UK, Germany)


16
17
18
19
20
21
22
23
24
25
S910
S907
COUNTER RESET
S914
MUTE
K B ONLY)
S913
PAUSE
(DECK B ONLY)
FL351
FLUORESCENT INDICATOR TUBE
IC351
D304
D303
D302
D301
S909
DUBBING MODE
S905
DECK B
S906
DECK A
S901
CD SYNCHRO
X951
S916
DIRECTION MODE
S908
DOLBY NR
1-643-770-
11
12
13
14
RD]
H2700,H3700:AEP MODEL
H3700:UK,G MODEL
TP601
CN601
CN603
CN606
CN607
L601
T601
D603
D6010
D6012
D601
X601
IC601
IC602
IC603
IC605
IC101
IC102
IC103
IC104
IC106
Q201
Q202
Q601
Q602
Q603
Q604
Q605
Q606
Q607
Q608
Q611
Q617
RV101
RV201
1-643-771-
2
3

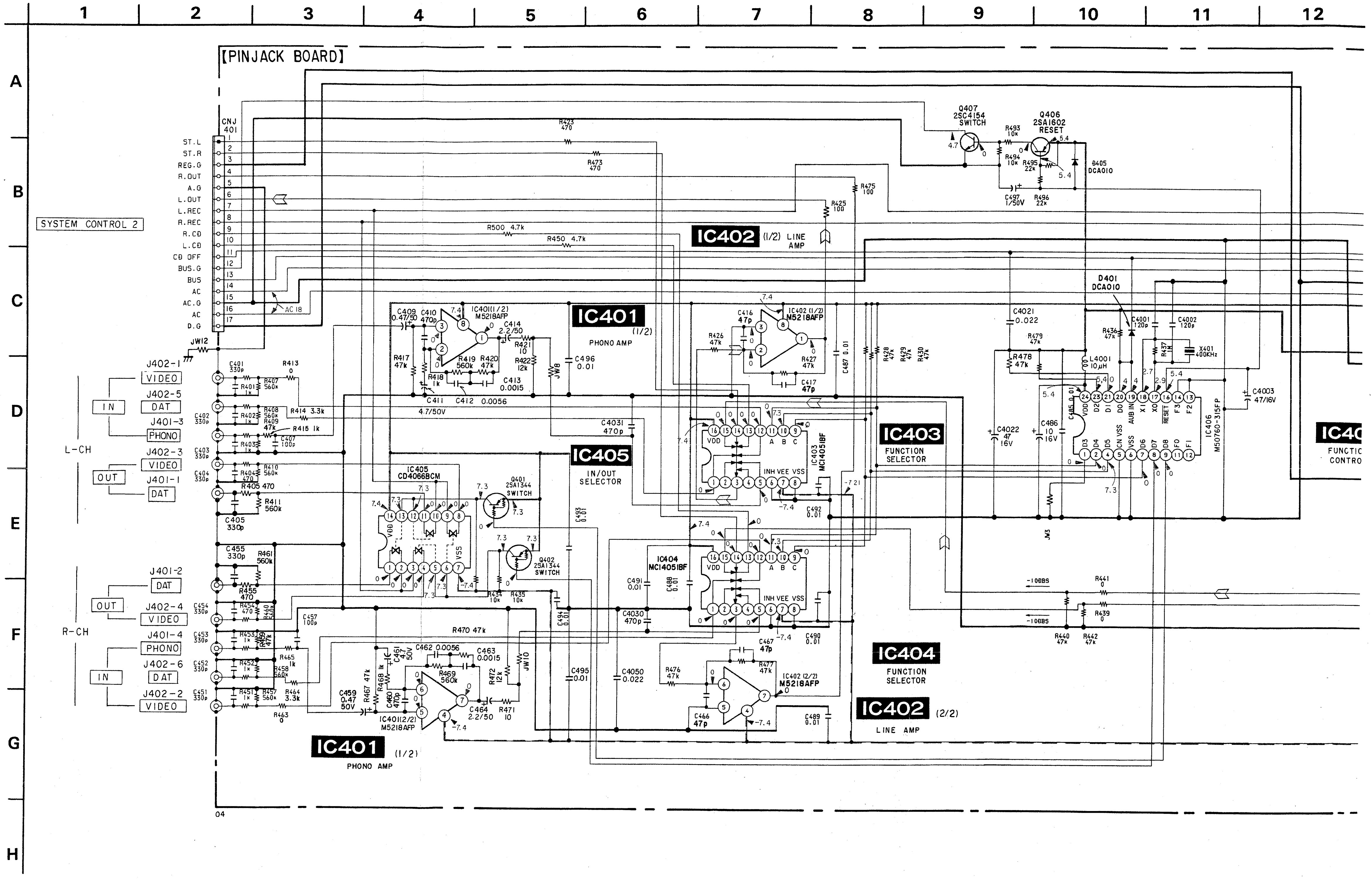
## • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D31 | C-2 |
| D301 | B-24 |
| D302 | A-23 |
| D303 | A-22 |
| D304 | A-22 |
| D601 | I-21 |
| D602 | I-15 |
| D603 | G-19 |
| D604 | F-19 |
| D605 | F-19 |
| D606 | F-19 |
| D607 | F-15 |
| D608 | F-15 |
| D6010 | G-21 |
| D6011 | G-21 |
| D6012 | G-22 |
| IC31A | D-9 |
| IC31B | D-3 |
| IC81A | I-11 |
| IC81B | I-5 |
| IC101 | H-21 |
| IC102 | I-22 |
| IC103 | I-20 |
| IC104 | H-23 |
| IC105 | H-23 |
| IC106 | G-23 |
| IC351 | B-20 |
| IC601 | G-20 |
| IC602 | H-17 |
| IC603 | G-15 |
| IC604 | I-16 |
| IC605 | I-17 |
| IC6001 | G-19 |
| Q51 | B-3 |
| Q52 | B-3 |
| Q53 | C-3 |
| Q71A | C-11 |
| Q71B | C-5 |
| Q101 | G-21 |
| Q102 | H-22 |
| Q201 | G-21 |
| Q202 | H-22 |
| Q601 | J-21 |
| Q602 | I-21 |
| Q603 | J-22 |
| Q604 | G-22 |
| Q605 | G-23 |
| Q606 | G-23 |
| Q607 | H-21 |
| Q608 | H-21 |
| Q609 | F-20 |
| Q611 | H-16 |
| Q612 | I-16 |
| Q613 | H-16 |
| Q616 | H-19 |
| Q617 | H-19 |
| Q619 | G-18 |
| Q620 | G-18 |
| Q6005 | G-18 |

**Note:**

- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▒ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.
- G: Germany model

## 5-7. SCHEMATIC DIAGRAM —PIN JACK SECTION— • Refer to page 37 for IC Block Diagrams.

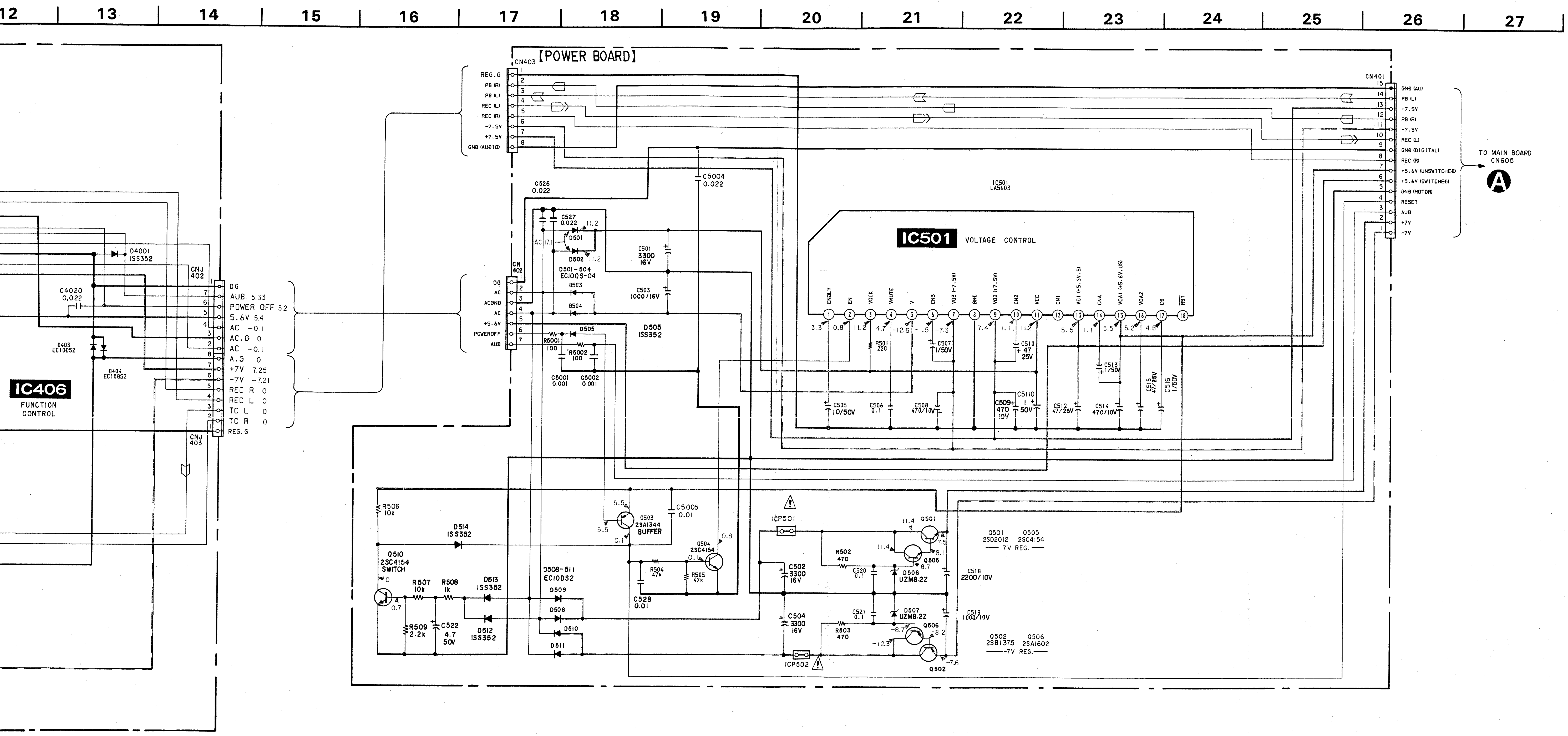

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
[PINJACK BOARD]
SYSTEM CONTROL 2
CNJ 401
ST.L
ST.R
REG.G
R.OUT
A.G
L.OUT
L.REC
R.REC
R.CD
L.CD
CD OFF
BUS.G
BUS
AC
AC.G
AC
D.G
JW12
L-CH
R-CH
IN
OUT
J402-1 VIDEO
J402-5 DAT
J401-3 PHONO
J402-3 VIDEO
J401-1 DAT
J401-2 DAT
J402-4 VIDEO
J401-4 PHONO
J402-6 DAT
J402-2 VIDEO
IC401 (1/2) PHONO AMP
IC401(1/2) M5218AFP
IC401(2/2) M5218AFP
IC402 (1/2) LINE AMP
IC402 (2/2) LINE AMP
IC402 (1/2) M5218AFP
IC402 (2/2) M5218AFP
IC403 FUNCTION SELECTOR
IC403 MC14051BF
IC404 FUNCTION SELECTOR
IC404 MC14051BF
IC405 IN/OUT SELECTOR
IC405 CD4066BCM
IC406 M50760-315FP
Q401 2SA1344 SWITCH
Q402 2SA1344 SWITCH
Q406 2SA1602 RESET
Q407 2SC4154 SWITCH
D401 DCA010
D405 DCA010
X401 400kHz
L4001 10μH
INH VEE VSS
VDD
A B C
-100BS
IC4
FUNCTIC
CONTRO
04

Note:

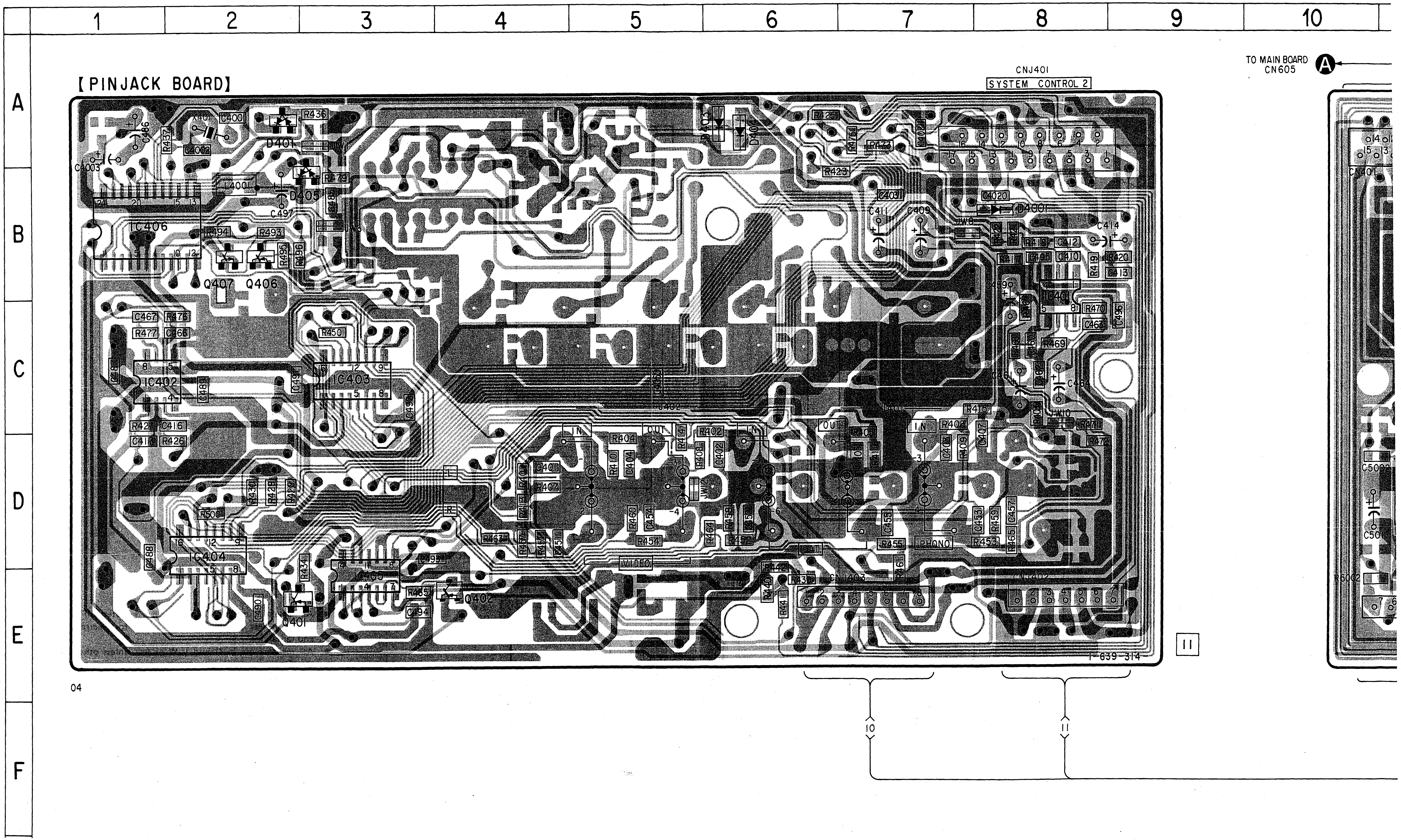
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

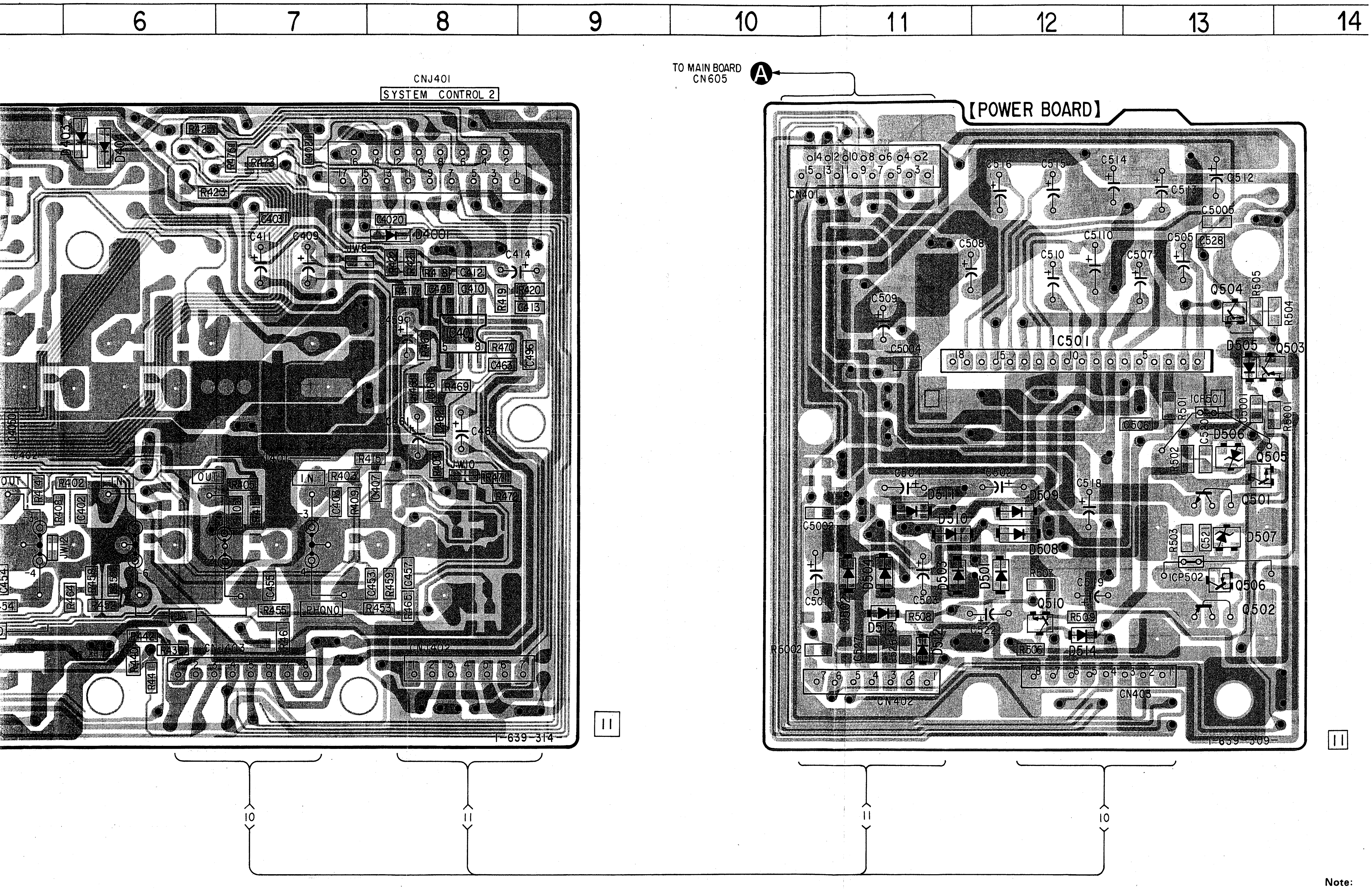
**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line
- ▬ ▬ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : PB
  < > : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : PB (DECK A)
  ▷▷ : REC (DECK A)
  ▷▷ : REC (DECK B)


12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
[POWER BOARD]
CN403
REG.G
PB (R)
PB (L)
REC (L)
REC (R)
-7.5V
+7.5V
GND (AUDIO)
C526
0.022
C527
0.022
C5004
0.022
AC 17.1
11.2
D501
D502
D501-504
EC10QS-04
D503
D504
C501
3300
16V
C503
1000/16V
CN
402
DG
AC
ACGND
AC
+5.6V
POWEROFF
AUB
D505
ISS352
R5001
100
R5002
100
C5001
0.001
C5002
0.001
IC406
FUNCTION
CONTROL
D4001
ISS352
C4020
0.022
D403
EC10DS2
D404
EC10DS2
CNJ
402
DG
AUB 5.33
POWER OFF 5.2
5.6V 5.4
AC -0.1
AC.G 0
AC -0.1
A.G 0
+7V 7.25
-7V -7.21
REC R 0
REC L 0
TC L 0
TC R 0
REG.G
CNJ
403
IC501
LA5603
IC501
VOLTAGE CONTROL
ENDLY
EN
VQCK
VMUTE
V
CN3
VO3 (-7.5V)
GND
VO2 (+7.5V)
CN2
VCC
CN1
VO1 (+5.5V.S)
CNA
VOA1 (+5.6V.US)
VOA2
CD
RST
3.3
0.8
11.2
4.7
-12.6
-1.5
-7.3
7.4
1.1
11.2
5.5
1.1
5.5
5.2
4.8
R501
220
C507
1/50V
C510
47
25V
C513
1/50V
C505
10/50V
C506
0.1
C508
470/10V
C509
470
10V
C5110
1
50V
C512
47/25V
C514
470/10V
C515
47/25V
C516
1/50V
CN401
GND (AU)
PB (L)
+7.5V
PB (R)
-7.5V
REC (L)
GND (DIGITAL)
REC (R)
+5.6V (UNSWITCHED)
+5.6V (SWITCHED)
GND (MOTOR)
RESET
AUB
+7V
-7V
TO MAIN BOARD
CN605
A
R506
10k
D514
ISS352
Q510
2SC4154
SWITCH
0
0.7
R507
10k
R508
1k
D513
ISS352
R509
2.2k
C522
4.7
50V
D512
ISS352
D508-511
EC10DS2
D509
D508
D510
D511
5.5
5.5
0.1
Q503
2SA1344
BUFFER
C5005
0.01
Q504
2SC4154
0.1
0.8
R504
47k
R505
47k
C528
0.01
ICP501
ICP502
C502
3300
16V
C504
3300
16V
R502
470
R503
470
C520
0.1
C521
0.1
D506
UZM8.2Z
D507
UZM8.2Z
11.4
11.4
Q501
Q505
7.5
8.1
8.7
Q506
Q502
-8.7
-8.2
-12.3
-7.6
C518
2200/10V
C519
1000/10V
Q501 2SD2012
Q505 2SC4154
7V REG.
Q502 2SB1375
Q506 2SA1602
-7V REG.

## 5-8. PRINTED WIRING BOARDS —PIN JACK SECTION— • Refer to page 14 for Semiconducter Lead Layouts.


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
[PINJACK BOARD]
CNJ401
SYSTEM CONTROL 2
TO MAIN BOARD CN605
A
IC406
IC402
IC403
IC404
IC405
IC401
Q407
Q406
Q401
Q402
D401
D405
D4001
CNJ402
CNJ403
IN
OUT
PHONO
VIDEO
DAT
CN401
11
1-639-314
04
10
11


6
7
8
9
10
11
12
13
14
CNJ401
SYSTEM CONTROL 2
TO MAIN BOARD CN605
A
[POWER BOARD]
CN401
IC501
IC401
CN402
CN403
CN404
CN405
D4001
D505
D506
D507
D508
D509
D510
D511
D513
D514
Q503
Q504
Q505
Q506
Q501
Q502
Q510
PHONO
OUT
IN
1-639-314-
1-639-309-
11
10
11
11
10

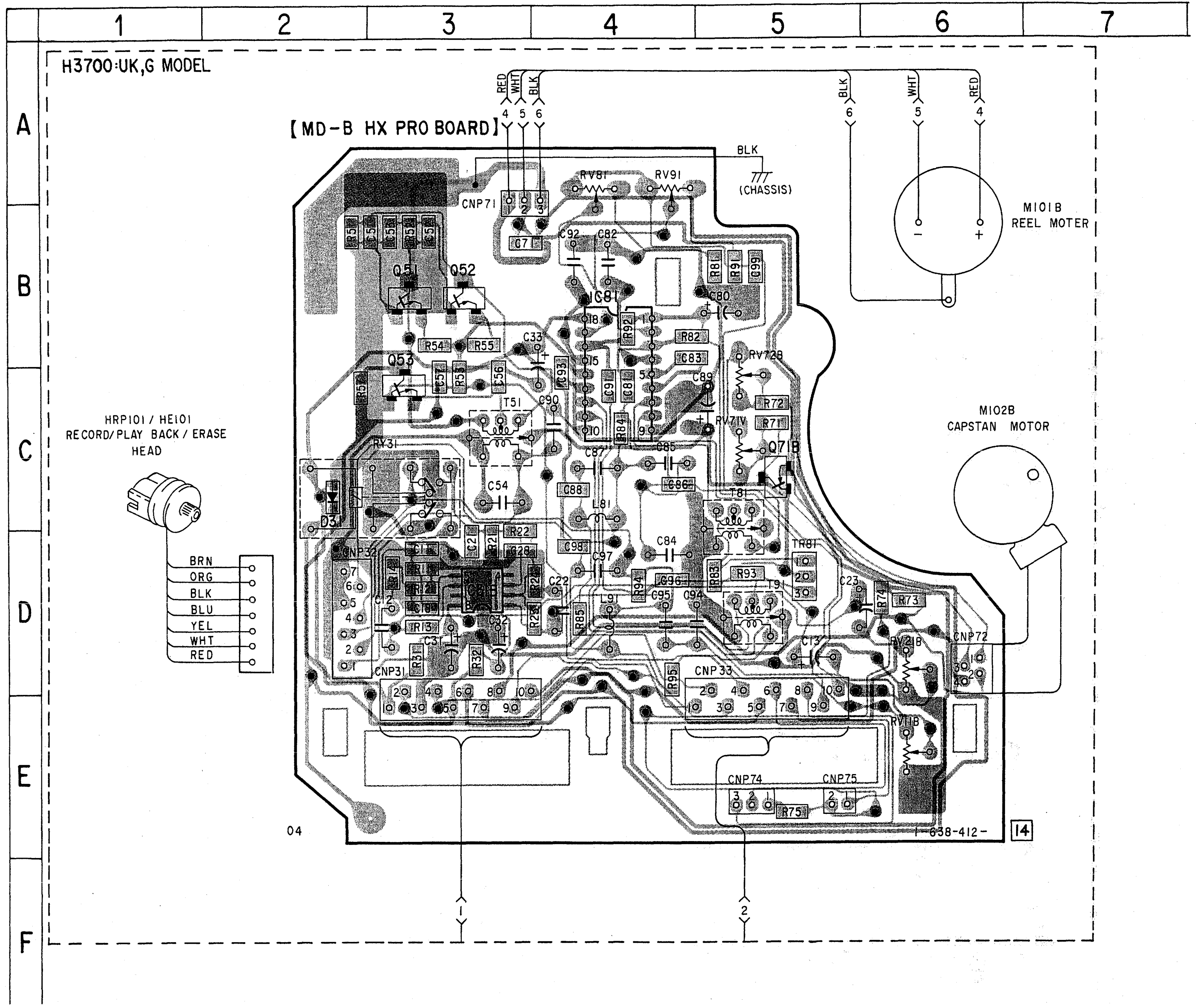
**• Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D401 | A-2 |
| D403 | A-6 |
| D404 | A-6 |
| D405 | B-3 |
| D501 | D-12 |
| D502 | D-11 |
| D503 | D-11 |
| D504 | D-11 |
| D505 | C-13 |
| D506 | C-13 |
| D507 | D-13 |
| D508 | D-12 |
| D509 | D-12 |
| D510 | D-11 |
| D511 | D-11 |
| D512 | E-11 |
| D513 | D-11 |
| D514 | E-12 |
| D4001 | B-8 |
| IC401 | B-8 |
| IC402 | C-1 |
| IC403 | C-3 |
| IC404 | D-2 |
| IC405 | E-3 |
| IC406 | B-1 |
| IC501 | C-12 |
| Q401 | E-2 |
| Q402 | E-4 |
| Q406 | B-2 |
| Q407 | B-2 |
| Q501 | D-13 |
| Q502 | D-13 |
| Q503 | C-13 |
| Q504 | B-13 |
| Q505 | C-13 |
| Q506 | D-13 |
| Q510 | D-12 |

**Note:**

- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

## 5-9. PRINTED WIRING BOARD —MD SECTION (H3700: UK, Germany)—


1
2
3
4
5
6
7
A
B
C
D
E
F
H3700:UK,G MODEL
[MD-B HX PRO BOARD]
RED
WHT
BLK
4 5 6
BLK
WHT
RED
6
5
4
BLK
(CHASSIS)
M101B
REEL MOTER
M102B
CAPSTAN MOTOR
HRP101 / HE101
RECORD/PLAY BACK / ERASE
HEAD
BRN
ORG
BLK
BLU
YEL
WHT
RED
CNP71
CNP72
CNP31
CNP33
CNP74
CNP75
RV81
RV91
RV72B
RV71B
RV21B
RV11B
Q51
Q52
Q53
Q71B
IC81
T51
T81
T91
D31
RY31
C54
L81
L91
C84
1-638-412-
14
04

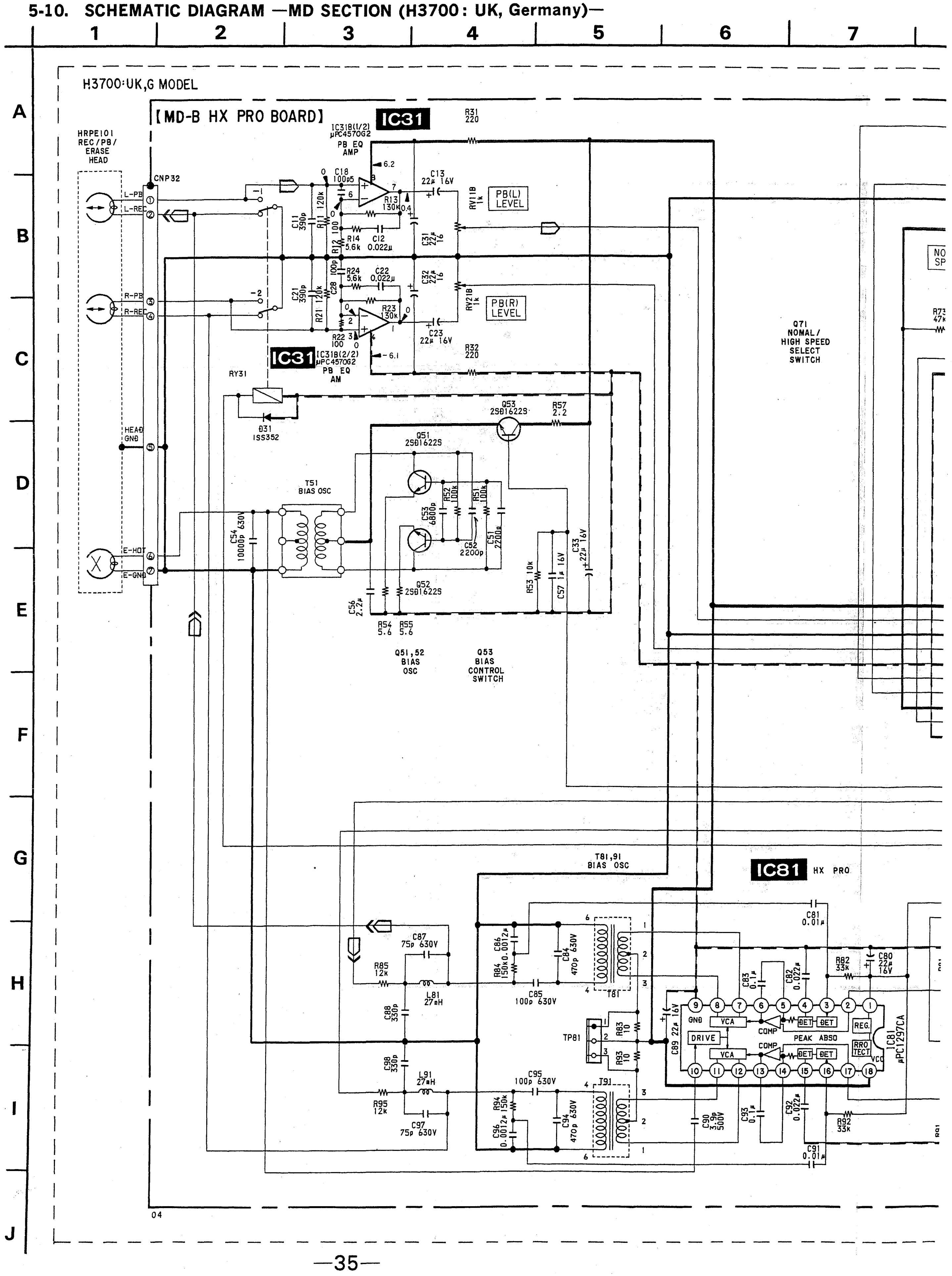
**• Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D31 | C-2 |
| IC31B | D-3 |
| IC81 | B-4 |
| Q51 | B-3 |
| Q52 | B-3 |
| Q53 | C-3 |
| Q71B | C-5 |

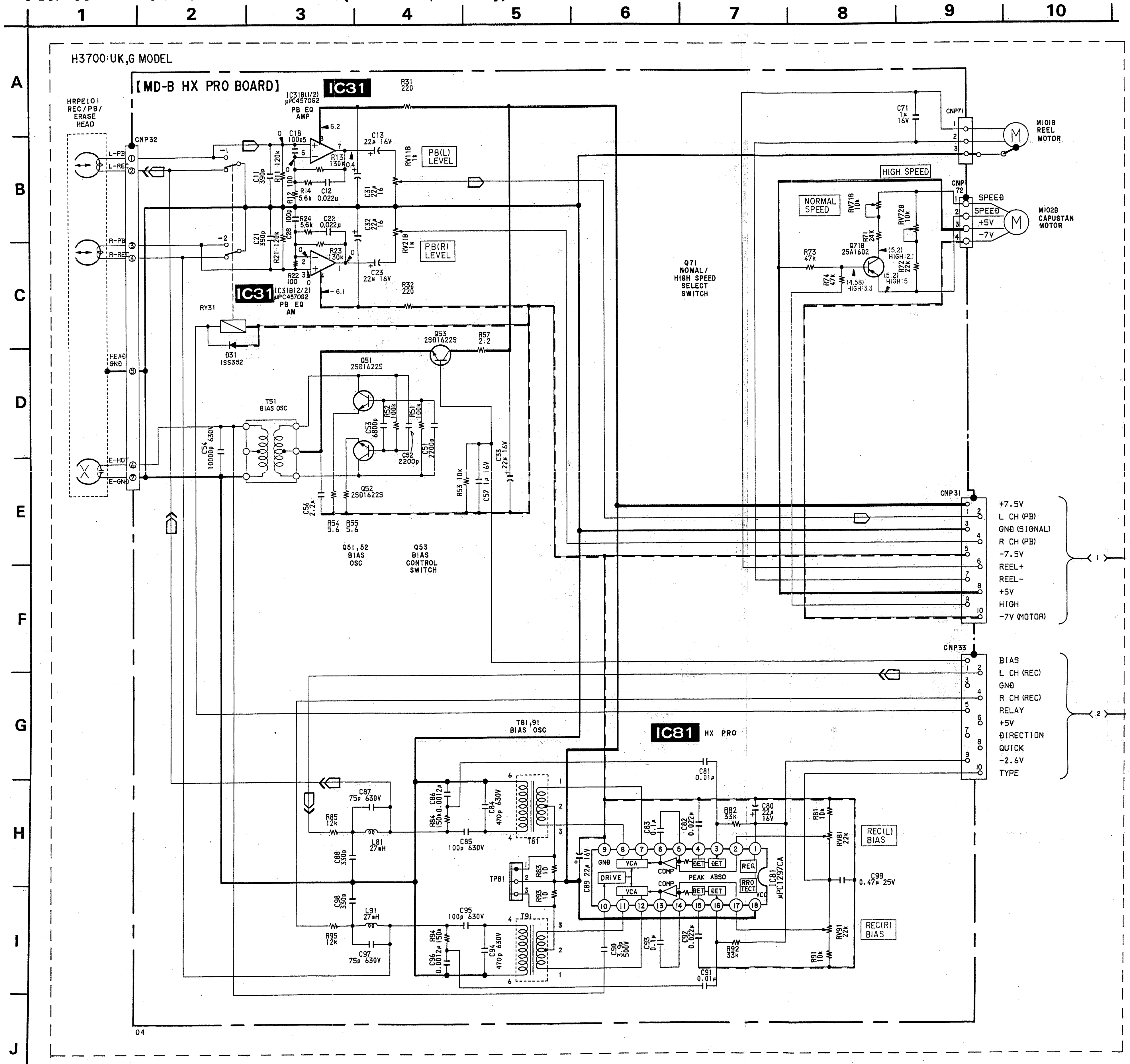
**Note:**

- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.
- • G : Germany model

## 5-10. SCHEMATIC DIAGRAM —MD SECTION (H3700: UK, Germany)—


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
H3700:UK,G MODEL
[MD-B HX PRO BOARD]
IC31
IC31B(1/2)
µPC4570G2
PB EQ
AMP
R31
220
HRPE101
REC/PB/
ERASE
HEAD
CNP32
L-PB
L-REC
R-PB
R-REC
HEAD GND
E-HOT
E-GND
PB(L)
LEVEL
PB(R)
LEVEL
RV11B
1k
RV21B
1k
C13
22µ 16V
C23
22µ 16V
R13
130k
R23
130k
R14
5.6k
R24
5.6k
C12
0.022µ
C22
0.022µ
IC31
IC31B(2/2)
µPC4570G2
PB EQ
AMP
R32
220
RY31
D31
1SS352
Q53
2SD1622S
R57
2.2
Q51
2SD1622S
Q52
2SD1622S
T51
BIAS OSC
C54
10000p 630V
C56
2.2µ
R54
5.6
R55
5.6
R53
10k
C57
1µ 16V
C33
22µ 16V
Q51,52
BIAS
OSC
Q53
BIAS
CONTROL
SWITCH
Q71
NOMAL/
HIGH SPEED
SELECT
SWITCH
T81,91
BIAS OSC
IC81
HX PRO
C81
0.01µ
C87
75p 630V
R85
12k
L81
27mH
C86
0.0012µ
R84
150k
C84
470p 630V
C85
100p 630V
T81
TP81
R83
10
R93
10
C88
390p
C98
390p
L91
27mH
R95
12k
C97
75p 630V
C95
100p 630V
C96
0.0012µ
R94
150k
C94
470p 630V
T91
C89
22µ 16V
C83
0.1µ
C82
0.022µ
R82
33k
C80
22µ
16V
C90
3.9p
500V
C93
0.1µ
C92
0.022µ
R92
33k
C91
0.01µ
GND
VCA
DRIVE
COMP
PEAK ABSO
DET
REG.
PROTECT
VCC
IC81
µPC1297CA
04

## 5-10. SCHEMATIC DIAGRAM —MD SECTION (H3700: UK, Germany)—

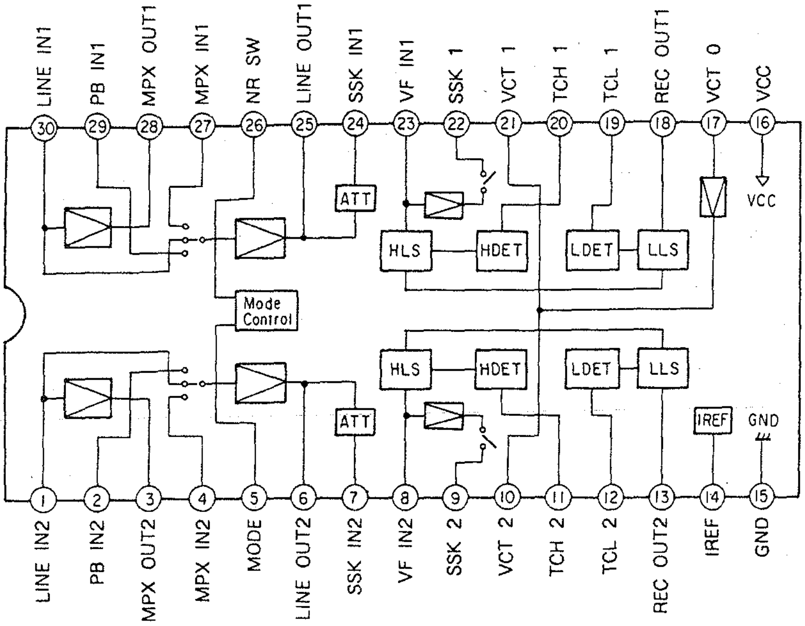

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
H3700:UK,G MODEL
[MD-B HX PRO BOARD]
IC31
IC31B(1/2) μPC4570G2 PB EQ AMP
HRPE101 REC/PB/ERASE HEAD
CNP32
L-PB
L-REC
R-PB
R-REC
HEAD GND
E-HOT
E-GND
PB(L) LEVEL
PB(R) LEVEL
RV11B 1k
RV21B 1k
R31 220
R32 220
C13 22μ 16V
C23 22μ 16V
IC31B(2/2) μPC4570G2 PB EQ AMP
RY31
D31 1SS352
Q53 2SD1622S
R57 2.2
Q51 2SD1622S
Q52 2SD1622S
T51 BIAS OSC
C54 10000p 630V
C56 2.2μ
R54 5.6
R55 5.6
Q51,52 BIAS OSC
Q53 BIAS CONTROL SWITCH
C71 1μ 16V
CNP71
M101B REEL MOTOR
HIGH SPEED
NORMAL SPEED
RV71B 10k
RV72B 10k
CNP72
SPEED
+5V
-7V
M102B CAPUSTAN MOTOR
Q71B 2SA1602
R73 47k
R74 47k
Q71 NOMAL/HIGH SPEED SELECT SWITCH
CNP31
+7.5V
L CH (PB)
GND (SIGNAL)
R CH (PB)
-7.5V
REEL+
REEL-
+5V
HIGH
-7V (MOTOR)
1
CNP33
BIAS
L CH (REC)
GND
R CH (REC)
RELAY
+5V
DIRECTION
QUICK
-2.6V
TYPE
2
T81,91 BIAS OSC
IC81 HX PRO
IC81 μPC1297CA
C81 0.01μ
C91 0.01μ
R82 33k
R92 33k
C80 22μ 16V
R81 10k
R91 10k
RV81 22k
RV91 22k
REC(L) BIAS
REC(R) BIAS
C99 0.47μ 25V
C87 75p 630V
C97 75p 630V
R85 12k
R95 12k
L81 27mH
L91 27mH
C88 330p
C98 330p
C85 100p 630V
C95 100p 630V
C84 470p 630V
C94 470p 630V
TP81
T81
T91
GND
VCA
DRIVE
COMP
PEAK ABSO
REG
04

**Note:**

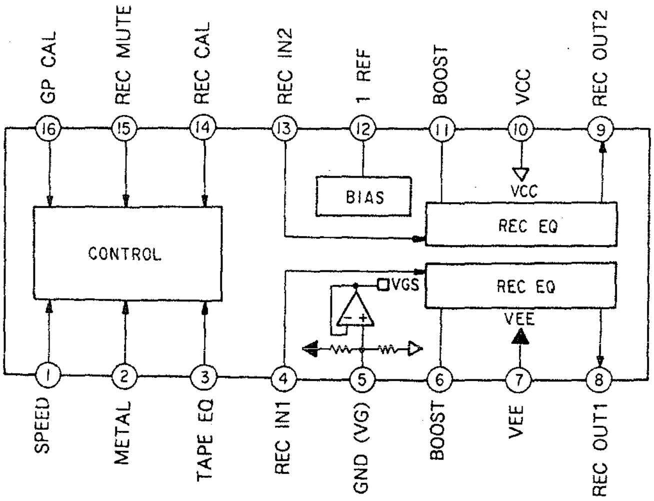
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- ▬▬ : B+ Line
- ▬ ▬ ▬ : B– Line
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark: STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)
- G: Germany model

## • IC Block Diagrams

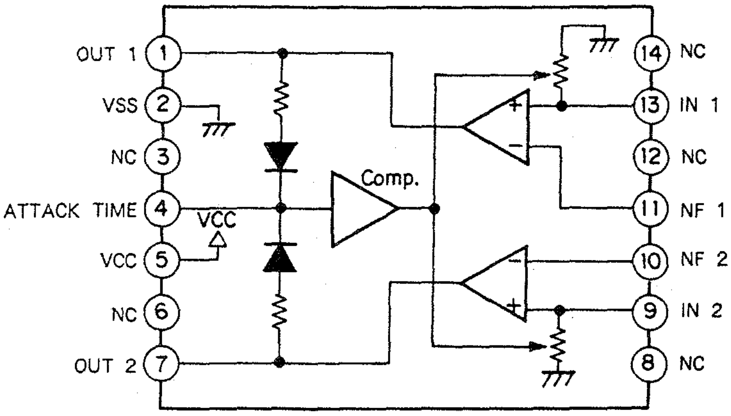
**IC102 CXA1331M**


LINE IN1
PB IN1
MPX OUT1
MPX IN1
NR SW
LINE OUT1
SSK IN1
VF IN1
SSK 1
VCT 1
TCH 1
TCL 1
REC OUT1
VCT 0
VCC
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ATT
HLS
HDET
LDET
LLS
VCC
Mode Control
IREF
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
LINE IN2
PB IN2
MPX OUT2
MPX IN2
MODE
LINE OUT2
SSK IN2
VF IN2
SSK 2
VCT 2
TCH 2
TCL 2
REC OUT2
IREF
GND

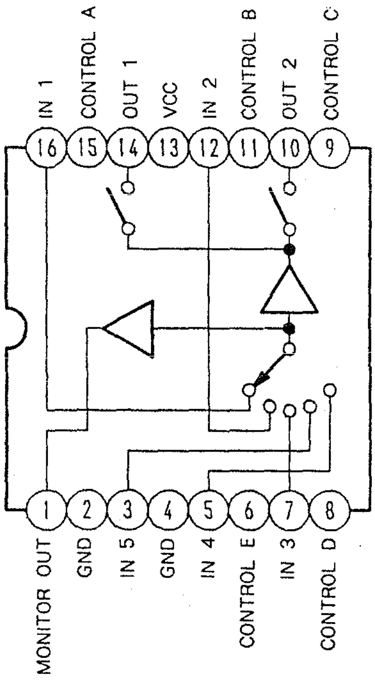
**IC103 CXA1578M**


GP CAL
REC MUTE
REC CAL
REC IN2
1 REF
BOOST
VCC
REC OUT2
16
15
14
13
12
11
10
9
BIAS
VCC
CONTROL
REC EQ
VGS
REC EQ
VEE
1
2
3
4
5
6
7
8
SPEED
METAL
TAPE EQ
REC IN1
GND (VG)
BOOST
VEE
REC OUT1

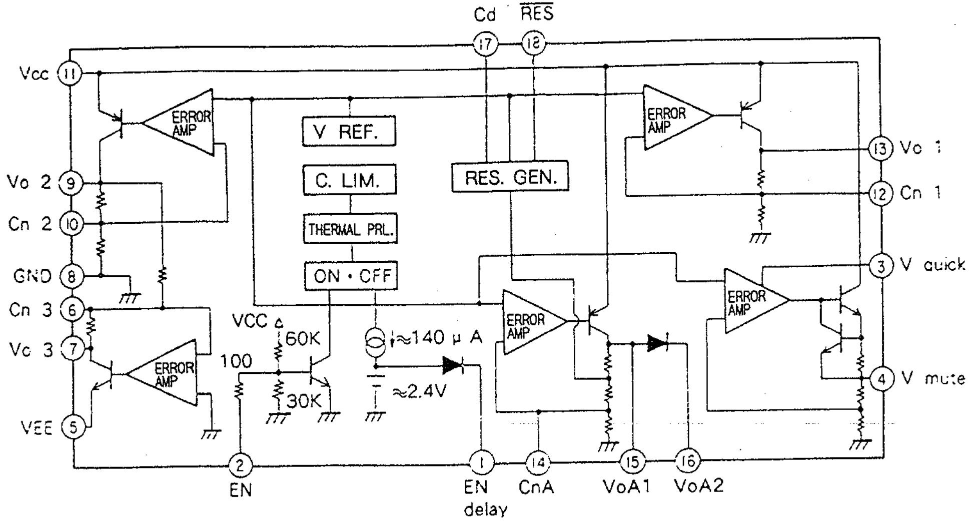
**IC106 BA3308F**


OUT 1
VSS
NC
ATTACK TIME
VCC
NC
OUT 2
1
2
3
4
5
6
7
VCC
Comp.
14
13
12
11
10
9
8
NC
IN 1
NC
NF 1
NF 2
IN 2
NC

**IC407 BA7625**


IN 1
CONTROL A
OUT 1
VCC
IN 2
CONTROL B
OUT 2
CONTROL C
16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8
MONITOR OUT
GND
IN 5
GND
IN 4
CONTROL E
IN 3
CONTROL D

**IC501 LA5603-S**

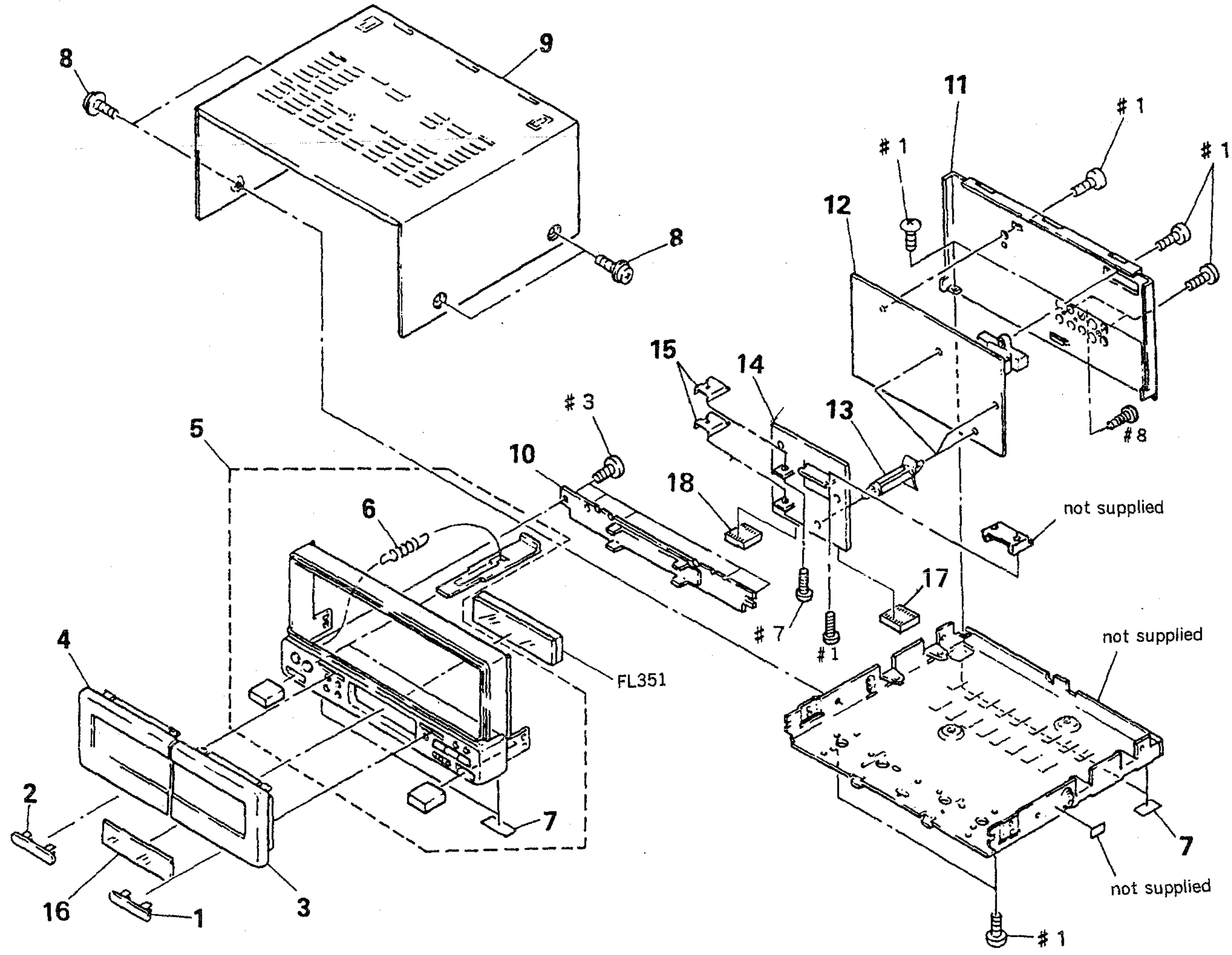

Cd
RES
17
18
Vcc 11
Vo 2 9
Cn 2 10
GND 8
Cn 3 6
Vo 3 7
VEE 5
ERROR AMP
V REF.
C. LIM.
THERMAL PRL.
ON · OFF
RES. GEN.
VCC
60K
30K
100
≈140 μ A
≈2.4V
13 Vo 1
12 Cn 1
3 V quick
4 V mute
2 EN
1 EN delay
14 CnA
15 VoA1
16 VoA2

# SECTION 6
# EXPLEDED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.
- G: Germany model

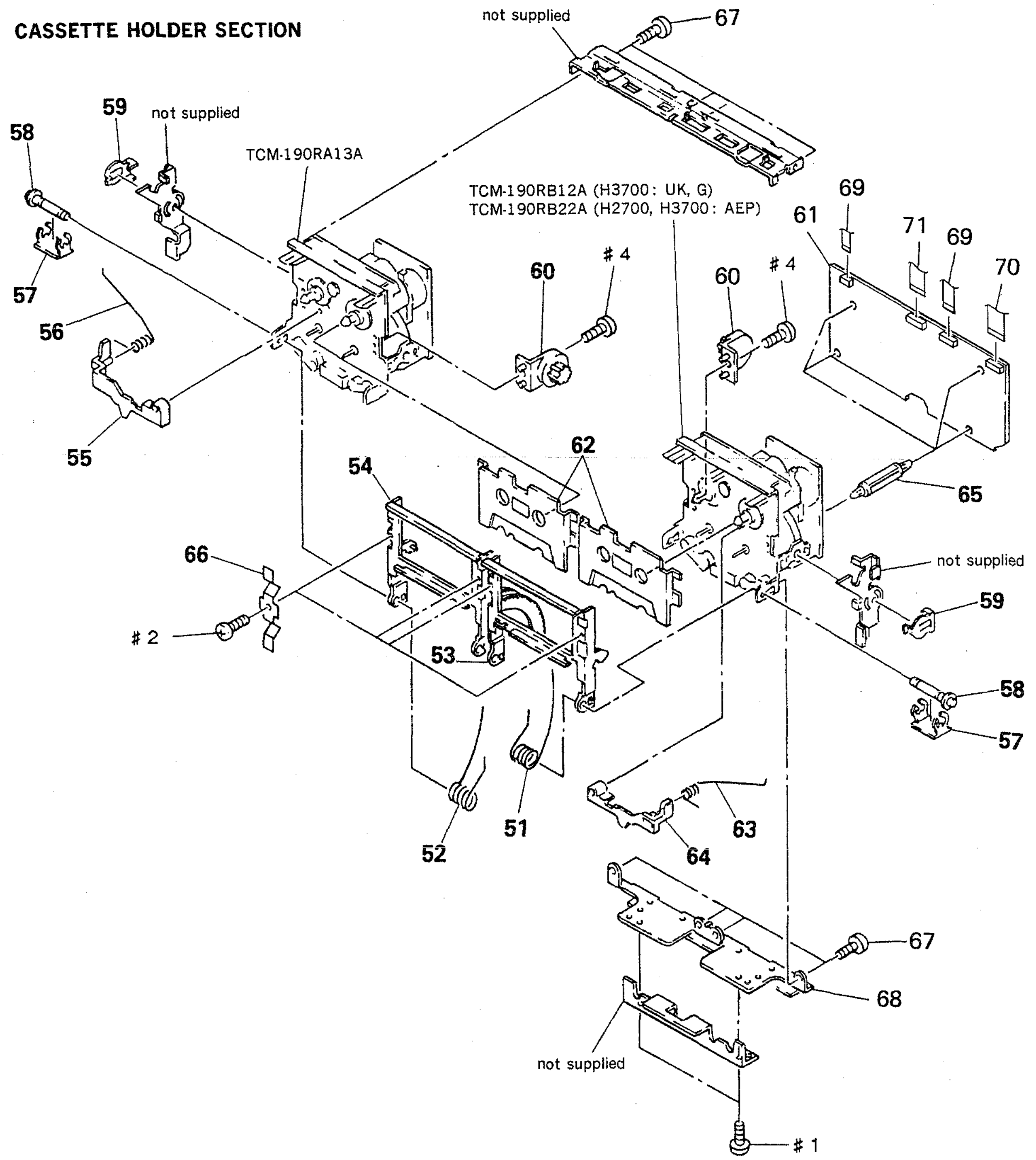
## 6-1. CABINET SECTION



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 3-367-872-31 | COVER (AZIMUTH) | |
| 2 | 3-367-872-21 | COVER (AZIMUTH) | |
| 3 | X-3364-893-1 | LID (B) ASSY, CASSETTE (AEP) | |
| 3 | X-3364-896-1 | LID (B) (EX) ASSY, CASSETTE (UK, G) | |
| 4 | X-3364-894-1 | LID (A) ASSY, CASSETTE | |
| 5 | X-3364-895-1 | PANEL ASSY, FRONT | |
| 6 | 3-567-110-00 | SPRING, TENSION | |
| 7 | 4-930-336-21 | FOOT (FELT) | |
| 8 | 3-363-099-01 | SCREW (CASE +3X8 TP2) | |
| * 9 | 4-944-522-21 | CASE (K211522) | |
| * 10 | A-2006-693-A | PANEL BOARD, COMPLETE | |

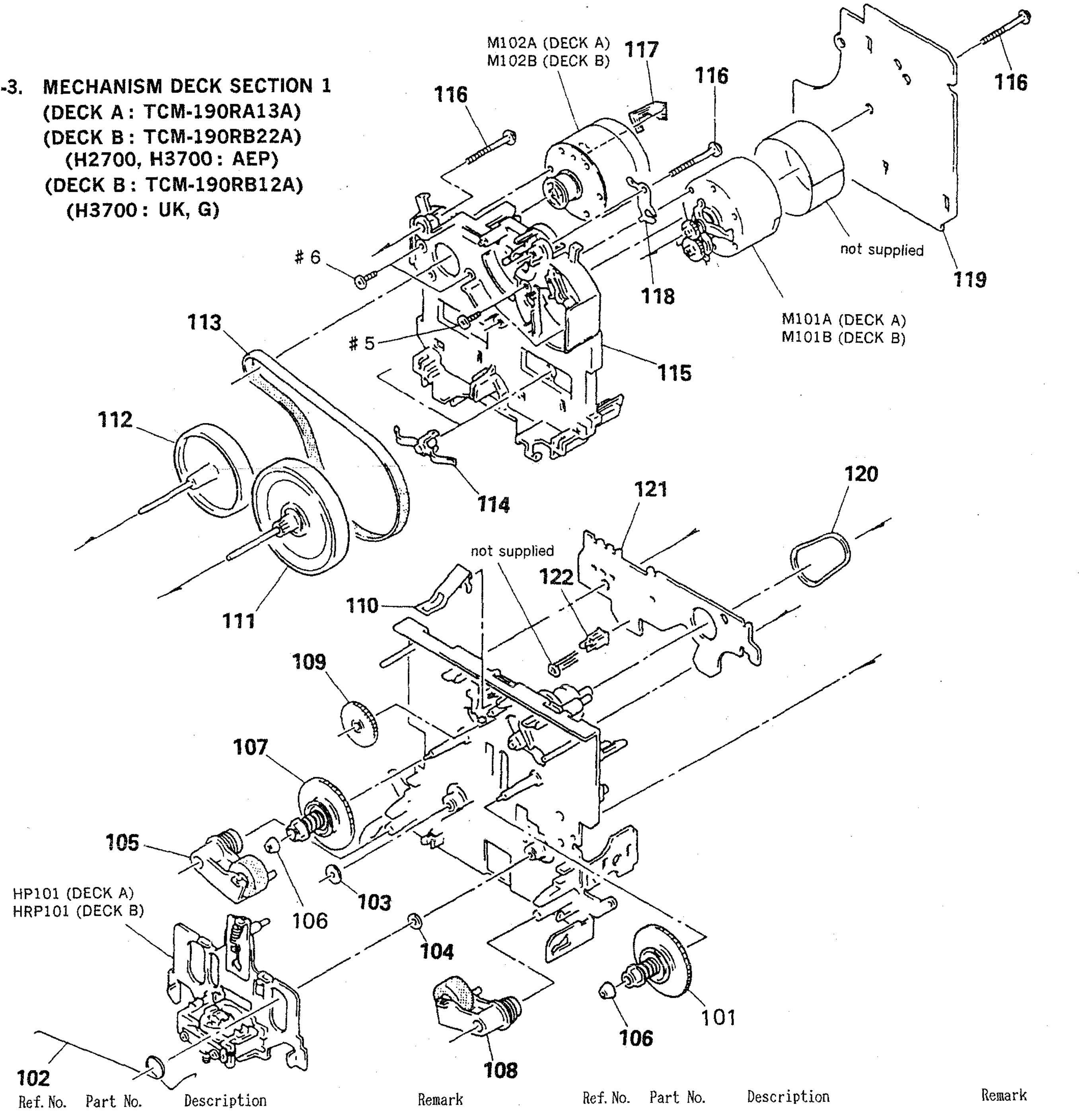
| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 11 | 3-374-471-21 | PANEL, BACK (H3700:AEP) | |
| * 11 | 3-374-471-31 | PANEL, BACK (H3700:G) | |
| * 11 | 3-374-471-41 | PANEL, BACK (EXCEPT H2700:G) | |
| * 11 | 3-374-471-51 | PANEL, BACK (H2700:G) | |
| * 11 | 3-375-041-51 | PANEL, BACK (H3700:UK) | |
| * 12 | A-2006-732-A | PIN JACK BOARD, COMPLETE | |
| * 13 | 3-703-353-02 | SUPPORT, PC BOARD | |
| * 14 | A-2006-735-A | POWER BOARD, COMPLETE | |
| * 15 | 3-309-144-21 | HEAT SINK | |
| 16 | 3-367-862-01 | WINDOW (PANEL) | |
| * 17 | 1-573-188-11 | CONNECTOR, BRIDGE 7P | |
| * 18 | 1-573-389-11 | COONECTOR, BRIDGE 8P | |
| FL351 | 1-519-708-11 | INDICATOR TUBE, FLUORESCENT | |

## 6-2. CASSETTE HOLDER SECTION


not supplied
67
59
not supplied
58
TCM-190RA13A
TCM-190RB12A (H3700: UK, G)
TCM-190RB22A (H2700, H3700: AEP)
69
61
71
69
70
57
#4
60
60
#4
56
55
62
54
65
66
not supplied
59
#2
53
58
57
51
63
52
64
67
68
not supplied
#1

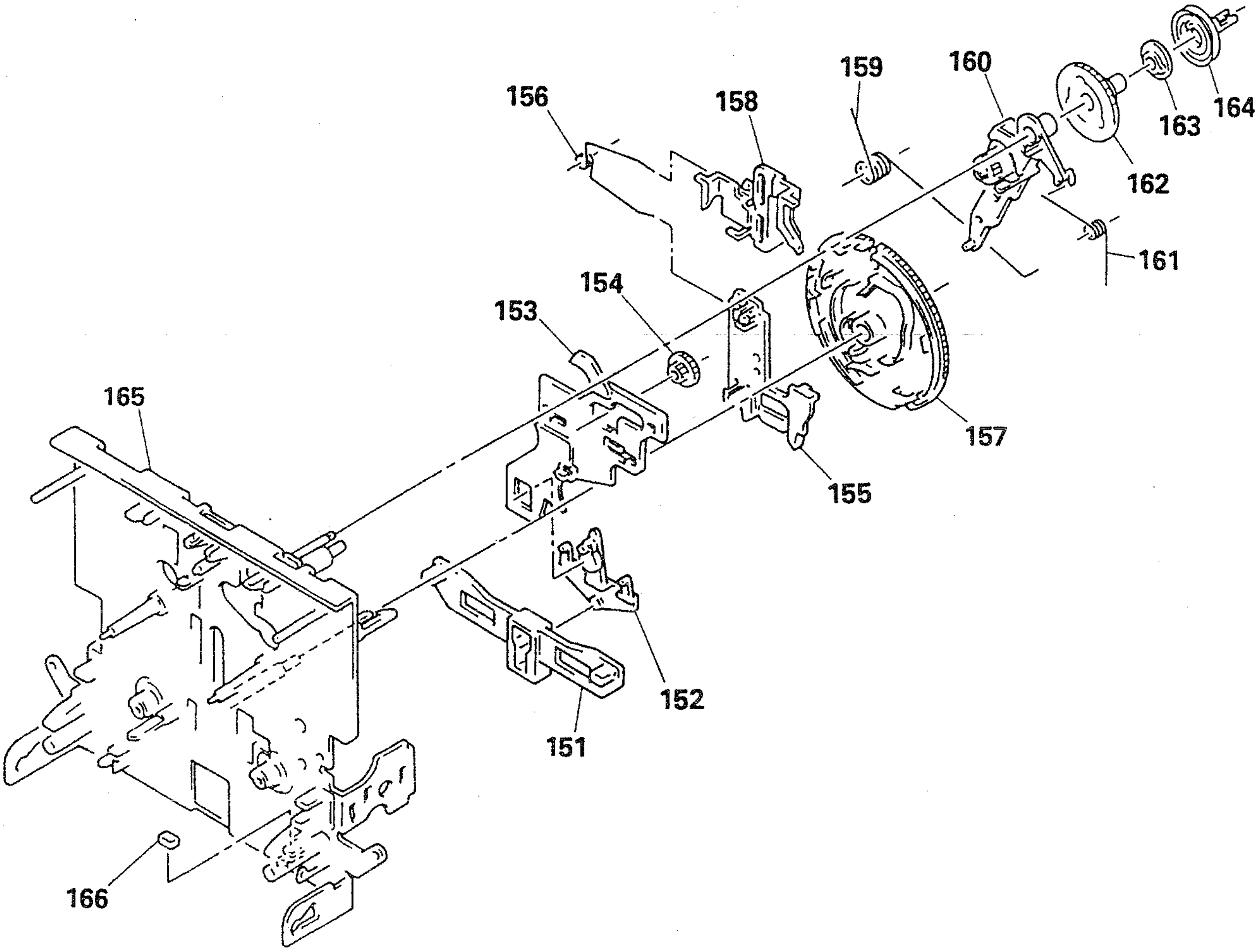
| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | 3-354-960-01 | SPRING (LOADING R), TORSION | |
| 52 | 3-354-959-01 | SPRING (LOADING L), TORSION | |
| 53 | X-3362-856-1 | HOLDER (R) ASSY, CASSETTE | |
| 54 | X-3362-857-1 | HOLDER (L) ASSY, CASSETTE | |
| 55 | 3-354-955-01 | LEVER (EJ SAFTY LEVER L) | |
| 56 | 3-354-961-01 | SPRING (EJ SAFTY SPRING L) | |
| 57 | 3-367-720-01 | RING (W), RETAINING | |
| 58 | 3-367-721-01 | SHAFT (FULCRUM SHAFT) | |
| 59 | 3-354-957-01 | JOINT (LOCK LEVER) | |
| 60 | 3-354-963-01 | DAMPER | |
| * 61 | A-2006-728-A | MAIN BOARD, COMPLETE (H2700, H3700:AEP) | |
| * 61 | A-2006-729-A | MAIN BOARD, COMPLETE (H3700:UK, G) | |
| 62 | 3-367-711-01 | RETAINER, CASSETTE | |
| 63 | 3-354-962-01 | SPRING (EJ SAFTY SPRING R) | |
| 64 | 3-354-956-01 | LEVER (EJ SAFTY LEVER R) | |
| * 65 | 3-682-419-21 | HOLDER, P.C.B | |
| 66 | 3-340-137-01 | SPRING, CASSETTE RETAINER | |
| 67 | 4-928-635-01 | SCREW, +BV (2.6X8) TAPPING | |
| * 68 | 3-367-724-01 | JOINT (LOWER) | |
| 69 | 1-590-902-11 | WIRE, FLAT TYPE (9 CORE) | |
| 70 | 1-590-903-11 | WIRE, FLAT TYPE (15 CORE) | |
| 71 | 1-590-904-11 | WIRE, FLAT TYPE (12 CORE) | |

## 6-3. MECHANISM DECK SECTION 1
(DECK A : TCM-190RA13A)
(DECK B : TCM-190RB22A)
(H2700, H3700 : AEP)
(DECK B : TCM-190RB12A)
(H3700 : UK, G)


M102A (DECK A)
M102B (DECK B)
117
116
116
116
not supplied
119
#6
118
M101A (DECK A)
M101B (DECK B)
113
#5
115
112
114
121
120
not supplied
122
110
111
109
107
105
106
103
HP101 (DECK A)
HRP101 (DECK B)
104
101
106
108
102

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | X-3359-404-1 | TABLE ASSY, REEL | |
| 102 | 3-359-455-01 | SPRING, TORSION | |
| 103 | 3-356-714-01 | WASHER | |
| 104 | 3-356-713-01 | WASHER | |
| 105 | X-3359-409-1 | LEVER (PINCH LEVER REV) ASSY | |
| 106 | 3-362-308-01 | CAP (REEL) | |
| 107 | X-3362-078-1 | TABLE ASSY (B), REEL | |
| 108 | X-3359-408-1 | LEVER (PINCH LEVER FWD) ASSY | |
| 109 | 3-359-424-01 | GEAR (REV GEAR) | |
| 110 | 3-359-430-01 | SPRING(CASSETTE RETAINER), LEAF | |
| 111 | X-3364-554-1 | FLYWHEEL (FWD) ASSY | |
| 112 | X-3359-410-1 | FLYWHEEL (REV) ASSY | |
| 113 | 3-359-417-01 | BELT (FLAT), CAPSTAN | |
| 114 | 3-575-321-00 | RETAINER, THRUST, CAPSTAN | |
| * 115 | 3-359-436-01 | BASE (THRUST RETAINER), FITTING | |
| 116 | 3-359-414-01 | SCREW (+PTPWH 2X23) | |
| 117 | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE | |
| 118 | 3-359-450-01 | PLATE, GROUND | |
| * 119 | A-2006-399-A | MD-A BOARD, COMPLETE | |
| * 119 | A-2006-400-A | MD-B BOARD, COMPLETE (H2700, H3700:AEP) | |
| * 119 | A-2006-401-A | MD-B HX PRO BOARD, COMPLETE (H3700:UK, G) | |
| 120 | 3-359-466-01 | BELT (FR), SQUARE | |
| * 121 | 1-634-841-14 | SW-A BOARD (DECK A) | |
| * 121 | 1-634-841-14 | SW-B BOARD (DECK B) | |
| 122 | 3-343-419-01 | HOLDER (S SENSOR A) | |
| M101A | X-3363-501-1 | MOTOR ASSY, REEL (DECK A) | |
| M101B | X-3363-501-1 | MOTOR ASSY, REEL (DECK B) | |
| M102A | X-3359-417-1 | MOTOR ASSY, CAPSTAN (DECK A) | |
| M102B | X-3359 417 1 | MOTOR ASSY, CAPSTAN (DECK B) | |
| HP101 | A-2003-868-A | BASE ASSY, HEAD (DECK A) | |
| HRP101 | A-2003-838-A | BASE ASSY, HEAD (DECK B) | |

## 6-4. MECHANISM DECK SECTION 2
(DECK A : TCM-190RA13A)
(DECK B : TCM-190RB22A) (H2700, H3700 : AEP)
(DECK B : TCM-190RB12A) (H3700 : UK, G)



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 151 | 3-359-425-01 | SLIDER (REVERSE SLIDER) | |
| 152 | 3-359-426-01 | LEVER (REVERSE LEVER) | |
| * 153 | 3-359-415-01 | SLIDER (TRIGGER SLIDER) | |
| 154 | 3-359-448-01 | GEAR (TRIGGER) | |
| * 155 | 3-359-427-01 | SLIDER (LEVERSE SLIDER) | |
| 156 | 3-359-454-01 | SPRING, TORSION | |
| 157 | 3-359-420-01 | GEAR (CAM GEAR) | |
| 158 | 3-359-429-01 | SLIDER (BRAKE PLATE) | |
| 159 | 3-359-456-01 | SPRING(TRIGGER SPRING), TORSION | |
| 160 | X-3359-405-1 | LEVER (FR ARM) ASSY | |
| 161 | 3-359-453-01 | SPRING (FR ARM), TORSION | |
| 162 | 3-359-419-01 | GEAR (FR GEAR) | |
| 163 | 3-359-421-01 | CLUTCH (REEL DISK) | |
| 164 | 3-359-418-01 | PULLEY (FR PULLEY) | |
| 165 | X-3363-790-1 | CHASSIS ASSY, MECHANICAL | |
| 166 | 3-359-469-01 | SPACER | |

# SECTION 7
# ELECTRICAL PARTS LIST

**MAIN** **PANEL**
**PIN JACK** **POWER**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- G : Germany model

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-2006-728-A | MAIN BOARD, COMPLETE (H2700, H3700:AEP) | | | |
| * | A-2006-729-A | MAIN BOARD, COMPLETE (H3700:UK, G) | | | |
| | | ************************************* | | | |
| * | A-2006-693-A | PANEL BOARD, COMPLETE | | | |
| | | ********************* | | | |
| * | A-2006-732-A | PIN JACK BOARD, COMPLETE | | | |
| | | ************************ | | | |
| * | A-2006-735-A | POWER BOARD, COMPLETE | | | |
| | | ********************* | | | |
| * | 3-309-144-21 | HEAT SINK | | | |
| * | 3-367-839-01 | HOLDER, FL TUBE | | | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | | | |
| | 7-682-547-04 | SCREW +BVTT 3X6 (S) | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-136-158-00 | FILM | 0.027uF | 5% | 50V |
| C102 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C103 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C104 | 1-106-351-00 | MYLAR | 2200PF | 5% | 200V |
| C105 | 1-106-351-00 | MYLAR | 2200PF | 5% | 200V |
| C106 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C107 | 1-136-174-00 | FILM | 0.56uF | 5% | 50V |
| C108 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V |
| C109 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C110 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C111 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C112 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C113 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C114 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C115 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | | 16V |
| C116 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C201 | 1-136-158-00 | FILM | 0.027uF | 5% | 50V |
| C202 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C203 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C204 | 1-106-351-00 | MYLAR | 2200PF | 5% | 200V |
| C205 | 1-106-351-00 | MYLAR | 2200PF | 5% | 200V |
| C206 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C207 | 1-136-174-00 | FILM | 0.56uF | 5% | 50V |
| C208 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V |
| C209 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C210 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C211 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C212 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C213 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C214 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C215 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | | 16V |
| C216 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C351 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C352 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C353 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C354 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C401 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C402 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C403 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C404 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C405 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C407 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C409 | 1-124-465-00 | ELECT | 0.47uF | 20% | 50V |
| C410 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C411 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C412 | 1-163-018-00 | CERAMIC CHIP | 0.0056uF | 5% | 50V |
| C413 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C414 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C416 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C417 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C451 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C452 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C453 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C454 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C455 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C457 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C459 | 1-124-465-00 | ELECT | 0.47uF | 20% | 50V |
| C460 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C461 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C462 | 1-163-018-00 | CERAMIC CHIP | 0.0056uF | 5% | 50V |
| C463 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C464 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C466 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C467 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C485 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |

## MAIN PANEL PIN JACK POWER

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C486 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C487 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C488 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C489 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C490 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C491 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C492 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C493 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C494 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C495 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C496 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C497 | 1-126-301-11 | ELECT | 1uF | 20% | 50V |
| C501 | 1-126-936-11 | ELECT | 3300uF | 20% | 16V |
| C502 | 1-126-936-11 | ELECT | 3300uF | 20% | 16V |
| C503 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V |
| C504 | 1-126-936-11 | ELECT | 3300uF | 20% | 16V |
| C505 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C506 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C507 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C508 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C509 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C510 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C512 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C513 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C514 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C515 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C516 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C518 | 1-126-927-11 | ELECT | 2200uF | 20% | 10V |
| C519 | 1-124-473-11 | ELECT | 1000uF | 20% | 10V |
| C520 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C521 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C522 | 1-124-927-11 | ELECT | 4.7uF | 20% | 100V |
| C526 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C527 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C528 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C601 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C602 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C603 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C604 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C605 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C606 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C607 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C608 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C609 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C610 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C611 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C612 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C615 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C616 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C617 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C618 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C619 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C620 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C621 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C622 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C623 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C624 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C625 | 1-126-059-11 | ELECT | 10uF | 20% | 50V |
| C626 | 1-126-059-11 | ELECT | 10uF | 20% | 50V |
| C629 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C632 | 1-136-594-11 | FILM | 0.018uF | 5% | 100V |
| C633 | 1-124-465-00 | ELECT | 0.47uF | 20% | 50V |
| C639 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C862 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C4001 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C4002 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C4003 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C4020 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C4021 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C4022 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C4030 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C4031 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C4050 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C5001 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C5002 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C5004 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C5005 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C5110 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C6008 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6009 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6010 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6011 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C6012 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C6013 | 1-126-023-11 | ELECT | 100uF | 20% | 16V |
| C6020 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6021 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6022 | 1-124-927-11 | ELECT | 4.7uF | 20% | 100V |
| C6026 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6027 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6029 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6030 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6031 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6035 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6050 | 1-126-157-11 | ELECT<br>(H2700, H3700:AEP) | 10uF | 20% | 16V |

< CONNECTOR >

| | | |
|---|---|---|
| CN351 | 1-580-883-21 | SOCKET, CONNECTOR (SMT) 12P |

**MAIN** **PANEL** **PIN JACK** **POWER**

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * CN401 | 1-568-834-11 | SOCKET, CONNECTOR 15P | |
| * CN402 | 1-573-187-11 | PIN, CONNECTOR (PC BOARD) 7P | |
| * CN403 | 1-573-388-11 | PIN, CONNECTOR (PC BOARD) 8P | |
| CN601 | 1-573-101-11 | SOCKET, CONNECTOR 9P | |
| CN602 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD | |
| CN603 | 1-573-101-11 | SOCKET, CONNECTOR 9P | |
| CN604 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD | |
| * CN605 | 1-568-858-11 | SOCKET, CONNECTOR 15P | |
| CN606 | 1-568-795-11 | SOCKET, CONNECTOR 12P | |
| CN607 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD | |
| * CNJ401 | 1-580-740-11 | SOCKET, CONNECTOR 17P (SYSTEM CONTROL 2) | |
| * CNJ402 | 1-573-187-11 | PIN, CONNECTOR (PC BOARD) 7P | |
| * CNJ403 | 1-573-388-11 | PIN, CONNECTOR (PC BOARD) 8P | |
| | | < DIODE > | |
| D301 | 8-719-027-53 | DIODE SEL4226C (DUBBING MODE) | |
| D302 | 8-719-027-53 | DIODE SEL4226C (CD SYNCHRO) | |
| D303 | 8-719-027-52 | DIODE SEL4226E (DECK A) | |
| D304 | 8-719-027-52 | DIODE SEL4226E (DECK B) | |
| D401 | 8-719-990-36 | DIODE DCA010 | |
| D403 | 8-719-210-33 | DIODE EC10DS2 | |
| D404 | 8-719-210-33 | DIODE EC10DS2 | |
| D405 | 8-719-990-36 | DIODE DCA010 | |
| D501 | 8-719-210-39 | DIODE EC10QS-04 | |
| D502 | 8-719-210-39 | DIODE EC10QS-04 | |
| D503 | 8-719-210-39 | DIODE EC10QS-04 | |
| D504 | 8-719-210-39 | DIODE EC10QS-04 | |
| D505 | 8-719-016-74 | DIODE 1SS352 | |
| D506 | 8-719-021-77 | DIODE UZM8.2Z | |
| D507 | 8-719-021-77 | DIODE UZM8.2Z | |
| D508 | 8-719-210-33 | DIODE EC10DS2 | |
| D509 | 8-719-210-33 | DIODE EC10DS2 | |
| D510 | 8-719-210-33 | DIODE EC10DS2 | |
| D511 | 8-719-210-33 | DIODE EC10DS2 | |
| D512 | 8-719-016-74 | DIODE 1SS352 | |
| D513 | 8-719-016-74 | DIODE 1SS352 | |
| D514 | 8-719-016-74 | DIODE 1SS352 | |
| D601 | 8-719-422-91 | DIODE MA8091 | |
| D602 | 8-719-016-74 | DIODE 1SS352 | |
| D603 | 8-719-016-74 | DIODE 1SS352 | |
| D604 | 8-719-210-39 | DIODE EC10QS-04 | |
| D605 | 8-719-016-74 | DIODE 1SS352 | |
| D606 | 8-719-422-46 | DIODE MA8056 | |
| D607 | 8-719-210-33 | DIODE EC10DS2 | |
| D608 | 8-719-210-33 | DIODE EC10DS2 | |
| D4001 | 8-719-016-74 | DIODE 1SS352 | |
| D6010 | 8-719-016-74 | DIODE 1SS352 | |
| D6011 | 8-719-016-74 | DIODE 1SS352 | |
| D6012 | 8-719-016-74 | DIODE 1SS352 | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < FLUORESCENT INDICATOR > | |
| FL351 | 1-519-708-11 | INDICATOR TUBE, FLUORESCENT | |
| | | < IC > | |
| IC101 | 8-759-300-71 | IC HD14053BFP | |
| IC102 | 8-752-037-90 | IC CXA1331M | |
| IC103 | 8-752-055-60 | IC CXA1578M | |
| IC104 | 8-759-636-55 | IC M5218AFP | |
| IC105 | 8-759-516-47 | IC CD4066BCM | |
| IC106 | 8-759-998-71 | IC BA3308F | |
| IC351 | 8-759-323-35 | IC HD614023-FA93 | |
| IC401 | 8-759-636-55 | IC M5218AFP | |
| IC402 | 8-759-636-55 | IC M5218AFP | |
| IC403 | 8-759-009-05 | IC MC14051BF | |
| IC404 | 8-759-009-05 | IC MC14051BF | |
| IC405 | 8-759-516-47 | IC CD4066BCM | |
| IC406 | 8-759-636-35 | IC M50760-315FP | |
| IC501 | 8-759-041-09 | IC LA5603-S | |
| IC601 | 8-759-058-40 | IC M50944-128FP | |
| IC602 | 8-759-636-67 | IC M50925-482FP | |
| IC603 | 8-759-207-05 | IC TA7272P | |
| IC604 | 8-759-636-55 | IC M5218AFP | |
| IC605 | 8-759-516-41 | IC CD4052BCM | |
| IC6001 | 8-759-634-43 | IC M51953BFP | |
| | | < IC LINK > | |
| ⚠ICP501 | 1-532-843-21 | LI NK, IC | |
| ⚠ICP502 | 1-532-843-21 | LI NK, IC | |
| | | < JACK > | |
| J401 | 1-565-304-11 | JACK, PIN 4P (DAT OUT, PHONO IN) | |
| * J402 | 1-569-812-11 | JACK, PIN 6P (VIDEO IN/OUT, DAT IN) | |
| | | < JUMPER RESISTOR > | |
| JW3 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| JW8 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| JW10 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| JW12 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| | | < COIL > | |
| L601 | 1-410-761-11 | INDUCTOR 0.68mH | |
| L4001 | 1-410-381-11 | INDUCTOR CHIP 10uH | |
| L6001 | 1-410-482-31 | INDUCTOR 100uH | |
| L6002 | 1-410-381-11 | INDUCTOR CHIP 10uH | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| Q102 | 8-729-113-40 | TRANSISTOR FA1A4Z-L68 | |

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

## MAIN PANEL PIN JACK POWER

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q201 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| Q202 | 8-729-113-40 | TRANSISTOR FA1A4Z-L68 | |
| Q401 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q402 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q406 | 8-729-602-36 | TRANSISTOR 2SA1602-F | |
| Q407 | 8-729-602-21 | TRANSISTOR 2SC4154-F | |
| Q501 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q502 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| Q503 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q504 | 8-729-602-21 | TRANSISTOR 2SC4154-F | |
| Q505 | 8-729-602-21 | TRANSISTOR 2SC4154-F | |
| Q506 | 8-729-602-36 | TRANSISTOR 2SA1602-F | |
| Q510 | 8-729-602-21 | TRANSISTOR 2SC4154-F | |
| Q601 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q602 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q603 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| Q604 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q605 | 8-729-805-69 | TRANSISTOR 2SA1341 | |
| Q606 | 8-729-805-45 | TRANSISTOR 2SC3395 | |
| Q607 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q608 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q609 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| Q611 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q612 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| Q613 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| Q616 | 8-729-804-41 | TRANSISTOR 2SB1122-S | |
| Q617 | 8-729-804-41 | TRANSISTOR 2SB1122-S | |
| Q619 | 8-729-808-01 | TRANSISTOR 2SD1622-S | |
| Q620 | 8-729-808-01 | TRANSISTOR 2SD1622-S | |
| Q6005 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 | |
| | | < RESISTOR > | |
| R101 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R102 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R103 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R104 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R105 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R106 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R107 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W | |
| R108 | 1-216-043-00 | METAL CHIP 560 5% 1/10W | |
| R109 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R110 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R111 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R112 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R113 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R114 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R115 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R116 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R117 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R118 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R119 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R120 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R121 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| R201 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R202 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R203 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R204 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R205 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R206 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R207 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W | |
| R208 | 1-216-043-00 | METAL CHIP 560 5% 1/10W | |
| R209 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R210 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R211 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R212 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R213 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R214 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R215 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R216 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R217 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R218 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R219 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R220 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R221 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| R351 | 1-216-029-00 | METAL CHIP 150 5% 1/10W | |
| R352 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R353 | 1-216-037-00 | METAL CHIP 330 5% 1/10W | |
| R354 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R355 | 1-216-045-00 | METAL CHIP 680 5% 1/10W | |
| R356 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R357 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R359 | 1-216-045-00 | METAL CHIP 680 5% 1/10W | |
| R362 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R363 | 1-216-045-00 | METAL CHIP 680 5% 1/10W | |
| R364 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R365 | 1-216-055-00 | METAL CHIP 1.8K 5% 1/10W | |
| R366 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R367 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R368 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R369 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R372 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R374 | 1-216-037-00 | METAL CHIP 330 5% 1/10W | |
| R375 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R376 | 1-216-121-00 | METAL CHIP 1M 5% 1/10W | |
| R377 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R378 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R379 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R380 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R381 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R401 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R402 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R403 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R404 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R405 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R407 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R408 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R409 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R410 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R411 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R413 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| R414 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R415 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R417 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R418 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R419 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R420 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R421 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R422 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | |
| R423 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R425 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R426 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R427 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R428 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R429 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R430 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R434 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R435 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R436 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R437 | 1-216-121-00 | METAL CHIP 1M 5% 1/10W | |
| R439 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| R440 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R441 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| R442 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R450 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R451 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R452 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R453 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R454 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R455 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R457 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R458 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R459 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R460 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R461 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R463 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| R464 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R465 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R467 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R468 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R469 | 1-216-115-00 | METAL CHIP 560K 5% 1/10W | |
| R470 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R471 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R472 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | |
| R473 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R475 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R476 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R477 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R478 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R479 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R493 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R494 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R495 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R496 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R500 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R501 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R502 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R503 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R504 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R505 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R506 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R507 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R508 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R509 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R601 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R602 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R603 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R605 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R606 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R607 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R608 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R609 | 1-216-083-00 | METAL CHIP 27K 5% 1/10W | |
| R610 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W | |
| R611 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R612 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R615 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R616 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R617 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R618 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R619 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R620 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R621 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R623 | 1-216-113-00 | METAL CHIP 470K 5% 1/10W | |
| R624 | 1-216-043-00 | METAL CHIP 560 5% 1/10W<br>(H2700, H3700:AEP) | |
| R624 | 1-216-295-00 | METAL CHIP 0 5% 1/10W<br>(H3700:UK, G) | |

## MAIN PANEL PIN JACK POWER

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R625 | 1-216-061-00 | METAL CHIP<br>(H2700, H3700:AEP) | 3.3K | 5% | 1/10W |
| R625 | 1-216-295-00 | METAL CHIP<br>(H3700:UK, G) | 0 | 5% | 1/10W |
| R626 | 1-216-069-00 | METAL CHIP<br>(H2700, H3700:AEP) | 6.8K | 5% | 1/10W |
| R626 | 1-216-295-00 | METAL CHIP<br>(H3700:UK, G) | 0 | 5% | 1/10W |
| R628 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R629 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R630 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R631 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R634 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R635 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R636 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R637 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R638 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R639 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R640 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R641 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R642 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R643 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R644 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R645 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R646 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R647 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R648 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R649 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R650 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R651 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R652 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R653 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R654 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R655 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R656 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R661 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R662 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R663 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R664 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R665 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R666 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R667 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R668 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W |
| R669 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R670 | 1-216-084-00 | METAL CHIP | 30K | 5% | 1/10W |
| R671 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W |
| R672 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R673 | 1-216-080-00 | METAL CHIP | 20K | 5% | 1/10W |
| R674 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R675 | 1-216-080-00 | METAL CHIP | 20K | 5% | 1/10W |
| R676 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R677 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R678 | 1-216-084-00 | METAL CHIP | 30K | 5% | 1/10W |
| R679 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R680 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W |
| R681 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W |
| R682 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R686 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R687 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R690 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R691 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R692 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R693 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R695 | 1-216-068-00 | METAL CHIP<br>(H3700:UK, G) | 6.2K | 5% | 1/10W |
| R696 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R697 | 1-216-077-00 | METAL CHIP<br>(H3700:UK, G) | 15K | 5% | 1/10W |
| R698 | 1-216-083-00 | METAL CHIP<br>(H3700:UK, G) | 27K | 5% | 1/10W |
| R699 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R700 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R5001 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R5002 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R6001 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R6004 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R6005 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R6010 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R6011 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6012 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6013 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6014 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6015 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6016 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6017 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6018 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R6050 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| ⚠R6051 | 1-212-974-00 | FUSIBLE | 47 | 5% | 1/2W F |
| R6060 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |

< VARIABLE RESISTOR >

| | | |
|---|---|---|
| RV101 | 1-241-136-11 | RES, ADJ, CARBON 10K |
| RV201 | 1-241-136-11 | RES, ADJ, CARBON 10K |

< SWITCH >

| | | |
|---|---|---|
| S901 | 1-554-303-21 | SWITCH, TACTILE (CD SYNCHRO) |
| S902 | 1-554-303-21 | SWITCH, TACTILE (▶▶) |
| S903 | 1-554-303-21 | SWITCH, TACTILE (◀◀) |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| S904 | 1-554-303-21 | SWITCH, TACTILE (●REC) | |
| S905 | 1-554-303-21 | SWITCH, TACTILE (DECK B) | |
| S906 | 1-554-303-21 | SWITCH, TACTILE (DECK A) | |
| S907 | 1-554-303-21 | SWITCH, TACTILE (COUNTER RESET) | |
| S908 | 1-554-303-21 | SWITCH, TACTILE (DOLBY NR) | |
| S909 | 1-554-303-21 | SWITCH, TACTILE (DUBBING MODE) | |
| S910 | 1-554-303-21 | SWITCH, TACTILE (■) | |
| S911 | 1-554-303-21 | SWITCH, TACTILE (◁) | |
| S912 | 1-554-303-21 | SWITCH, TACTILE (▷) | |
| S913 | 1-554-303-21 | SWITCH, TACTILE (❚❚PAUSE) | |
| S914 | 1-554-303-21 | SWITCH, TACTILE (○MUTE) | |
| S915 | 1-554-303-21 | SWITCH, TACTILE (DIRECTION MODE) | |
| | | < TRANSFORMER > | |
| T601 | 1-450-458-11 | TRANSFORMER, DC-DC CONVERTER | |
| | | < TEST PIN > | |
| * TP601 | 1-564-718-11 | PIN, CONNECTOR (SMALL TYPE) 2P | |
| * TP6001 | 1-564-517-11 | PLUG, CONNECTOR 2P | |
| | | < VIBRATOR > | |
| X401 | 1-577-077-11 | OSCILLATOR, CERAMIC (400kHZ) | |
| X601 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) | |
| X951 | 1-577-101-11 | VIBRATOR, CERAMIC (4.19MHz) | |

**********************************************************

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| * | A-2006-399-A | MD-A BOARD, COMPLETE<br>******************** | |
| | | < CAPACITOR > | |
| C11 | 1-163-131-00 | CERAMIC CHIP 390PF 5% 50V | |
| C12 | 1-136-157-00 | FILM 0.022uF 5% 50V | |
| C13 | 1-124-234-00 | ELECT 22uF 20% 16V | |
| C18 | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V | |
| C21 | 1-163-131-00 | CERAMIC CHIP 390PF 5% 50V | |
| C22 | 1-136-157-00 | FILM 0.022uF 5% 50V | |
| C23 | 1-124-234-00 | ELECT 22uF 20% 16V | |
| C28 | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V | |
| C31 | 1-124-234-00 | ELECT 22uF 20% 16V | |
| C32 | 1-124-234-00 | ELECT 22uF 20% 16V | |
| C71 | 1-164-346-11 | CERAMIC CHIP 1uF 16V | |
| | | < CONNECTOR > | |
| * CNJ31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | |
| * CNJ72 | 1-580-411-11 | SOCKET, CONNECTOR 4P | |
| * CNP32 | 1-580-772-11 | PIN, CONNECTOR (PC BOARD) 4P | |
| * CNP71 | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P | |
| | | < IC > | |
| IC31A | 8-759-106-02 | IC uPC4570G2 | |
| | | < JUMPER RESISTOR > | |
| JW1 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | |
| JW51 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| JW52 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| JW53 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| JW54 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| | | < TRANSISTOR > | |
| Q71A | 8-729-602-36 | TRANSISTOR 2SA1602-F | |
| | | < RESISTOR > | |
| R11 | 1-216-099-00 | METAL CHIP 120K 5% 1/10W | |
| R12 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R13 | 1-216-100-00 | METAL GLAZE 130K 5% 1/10W | |
| R14 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R21 | 1-216-099-00 | METAL CHIP 120K 5% 1/10W | |
| R22 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R23 | 1-216-100-00 | METAL GLAZE 130K 5% 1/10W | |
| R24 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R31 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R32 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R71 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W | |
| R72 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R73 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R74 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| | | < VARIABLE RESISTOR > | |
| RV11A | 1-238-012-11 | RES, ADJ, CARBON 1K | |
| RV21A | 1-238-012-11 | RES, ADJ, CARBON 1K | |
| RV71A | 1-238-016-11 | RES, ADJ, CARBON 10K | |
| RV72A | 1-238-016-11 | RES, ADJ, CARBON 10K | |

**********************************************************

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| * | A-2006-400-A | MD-B BOARD, COMPLETE (H2700, H3700:AEP)<br>************************************ | |
| * | A-2006-401-A | MD-B HX PRO BOARD, COMPLETE (H3700:UK, G)<br>************************************ | |
| | | < CAPACITOR > | |
| C11 | 1-163-131-00 | CERAMIC CHIP 390PF 5% 50V | |
| C12 | 1-136-157-00 | FILM 0.022uF 5% 50V | |
| C13 | 1-124-234-00 | ELECT 22uF 20% 16V | |
| C14 | 1-136-273-91 | FILM 75PF 5% 630V<br>(H2700, H3700:AEP) | |
| C15 | 1-164-080-11 | CERAMIC 390PF 10% 50V<br>(H2700, H3700:AEP) | |

## MD-B   MD-B HX PRO

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C17 | 1-163-103-00 | CERAMIC CHIP<br>(H2700, H3700:AEP) | 27PF | 5% | 50V |
| C18 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C21 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% | 50V |
| C22 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C23 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C24 | 1-136-273-91 | FILM<br>(H2700, H3700:AEP) | 75PF | 5% | 630V |
| C25 | 1-164-080-11 | CERAMIC<br>(H2700, H3700:AEP) | 390PF | 10% | 50V |
| C27 | 1-163-103-00 | CERAMIC CHIP<br>(H2700, H3700:AEP) | 27PF | 5% | 50V |
| C28 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C31 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C32 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C33 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C51 | 1-163-019-00 | CERAMIC CHIP<br>(H2700, H3700:AEP) | 0.0068uF | 10% | 50V |
| C51 | 1-164-161-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.0022uF | 10% | 100V |
| C52 | 1-163-019-00 | CERAMIC CHIP<br>(H2700, H3700:AEP) | 0.0068uF | 10% | 50V |
| C52 | 1-164-161-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.0022uF | 10% | 100V |
| C53 | 1-163-022-00 | CERAMIC CHIP<br>(H2700, H3700:AEP) | 0.012uF | 10% | 50V |
| C53 | 1-163-019-00 | CERAMIC CHIP<br>(H3700:UK, G) | 0.0068uF | 10% | 50V |
| C54 | 1-136-559-11 | FILM<br>(H2700, H3700:AEP) | 0.0047uF | 5% | 630V |
| C54 | 1-136-601-11 | FILM<br>(H3700:UK, G) | 0.01uF | 5% | 630V |
| C56 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | | 16V |
| C57 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C58 | 1-163-024-00 | CERAMIC CHIP<br>(H2700, H3700:AEP) | 0.018uF | 10% | 50V |
| C71 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C80 | 1-124-234-00 | ELECT<br>(H3700:UK, G) | 22uF | 20% | 16V |
| C81 | 1-164-232-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.01uF | | 50V |
| C82 | 1-136-157-00 | FILM<br>(H3700:UK, G) | 0.022uF | 5% | 50V |
| C83 | 1-164-004-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.1uF | 10% | 25V |
| C84 | 1-136-478-11 | FILM<br>(H3700:UK, G) | 470PF | 5% | 630V |
| C85 | 1-136-433-11 | FILM<br>(H3700:UK, G) | 100PF | 5% | 630V |
| C86 | 1-163-143-00 | CERAMIC CHIP<br>(H3700:UK, G) | 0.0012uF | 5% | 50V |
| C87 | 1-136-273-91 | FILM<br>(H3700:UK, G) | 75PF | 5% | 630V |
| C88 | 1-163-003-11 | CERAMIC CHIP<br>(H3700:UK, G) | 330PF | 10% | 50V |
| C89 | 1-124-234-00 | ELECT<br>(H3700:UK, G) | 22uF | 20% | 16V |
| C90 | 1-107-045-00 | MICA<br>(H3700:UK, G) | 3.9PF | | 500V |
| C91 | 1-164-232-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.01uF | | 50V |
| C92 | 1-136-157-00 | FILM<br>(H3700:UK, G) | 0.022uF | 5% | 50V |
| C93 | 1-164-004-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.1uF | 10% | 25V |
| C94 | 1-136-478-11 | FILM<br>(H3700:UK, G) | 470PF | 5% | 630V |
| C95 | 1-136-433-11 | FILM<br>(H3700:UK, G) | 100PF | 5% | 630V |
| C96 | 1-163-143-00 | CERAMIC CHIP<br>(H3700:UK, G) | 0.0012uF | 5% | 50V |
| C97 | 1-136-273-91 | FILM<br>(H3700:UK, G) | 75PF | 5% | 630V |
| C98 | 1-163-003-11 | CERAMIC CHIP<br>(H3700:UK, G) | 330PF | 10% | 50V |
| C99 | 1-164-005-11 | CERAMIC CHIP<br>(H3700:UK, G) | 0.47uF | | 25V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| * CNJ31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD<br>(H2700, H3700:AEP) |
| * CNJ33 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD<br>(H2700, H3700:AEP) |
| * CNJ72 | 1-580-411-11 | SOCKET, CONNECTOR 4P (H2700, H3700:AEP) |
| * CNP31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD (H3700:UK, G) |
| * CNP32 | 1-580-781-11 | PIN, CONNECTOR (PC BOARD) 7P |
| * CNP33 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD (H3700:UK, G) |
| * CNP71 | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P |
| * CNP72 | 1-580-411-11 | SOCKET, CONNECTOR 4P (H3700:UK, G) |

< DIODE >

| Ref. No. | Part No. | Description |
|---|---|---|
| D31 | 8-719-016-74 | DIODE 1SS352 |

< IC >

| Ref. No. | Part No. | Description |
|---|---|---|
| IC31B | 8-759-106-02 | IC uPC4570G2 |
| IC81 | 8-759-106-56 | IC uPC1297CA (H3700:UK, G) |

< JUMPER RESISTOR >

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| JW1 | 1-216-296-00 | METAL CHIP<br>(H2700, H3700:AEP) | 0 | 5% | 1/8W |
| JW2 | 1-216-295-00 | METAL CHIP<br>(H2700, H3700:AEP) | 0 | 5% | 1/10W |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| JW3 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | (H2700, H3700:AEP) |
| JW4 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | (H2700, H3700:AEP) |
| JW5 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | (H2700, H3700:AEP) |
| JW6 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | (H2700, H3700:AEP) |
| JW7 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | (H2700, H3700:AEP) |
| JW52 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW53 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW54 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW55 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW56 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW57 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW58 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW59 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW60 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |
| JW61 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | (H2700, H3700:AEP) |

< COIL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| L11 | 1-410-780-11 | INDUCTOR 27mH | (H2700, H3700:AEP) |
| L21 | 1-410-780-11 | INDUCTOR 27mH | (H2700, H3700:AEP) |
| L81 | 1-410-780-11 | INDUCTOR 27mH | (H3700:UK, G) |
| L91 | 1-410-780-11 | INDUCTOR 27mH | (H3700:UK, G) |

< TRANSISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q51 | 8-729-808-01 | TRANSISTOR 2SD1622-S | |
| Q52 | 8-729-808-01 | TRANSISTOR 2SD1622-S | |
| Q53 | 8-729-808-01 | TRANSISTOR 2SD1622-S | |
| Q71B | 8-729-602-36 | TRANSISTOR 2SA1602-F | (H2700, H3700:AEP) |
| Q71B | 8-729-216-22 | TRANSISTOR 2SA1162-C | (H3700:UK, G) |

< RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R11 | 1-216-099-00 | METAL CHIP 120K 5% 1/10W | |
| R12 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R13 | 1-216-100-00 | METAL GLAZE 130K 5% 1/10W | |
| R14 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| ⚠R15 | 1-249-430-11 | CARBON 12K 5% 1/4W F | (H2700, H3700:AEP) |
| R21 | 1-216-099-00 | METAL CHIP 120K 5% 1/10W | |
| R22 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R23 | 1-216-100-00 | METAL GLAZE 130K 5% 1/10W | |
| R24 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| ⚠R25 | 1-249-430-11 | CARBON 12K 5% 1/4W F | (H2700, H3700:AEP) |
| R31 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R32 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| ⚠R41 | 1-249-393-11 | CARBON 10 5% 1/4W F | (H2700, H3700:AEP) |
| ⚠R42 | 1-249-393-11 | CARBON 10 5% 1/4W F | (H2700, H3700:AEP) |
| R51 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | (H2700, H3700:AEP) |
| R51 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | (H3700:UK, G) |
| R52 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | (H2700, H3700:AEP) |
| R52 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | (H3700:UK, G) |
| R53 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R54 | 1-216-309-00 | METAL CHIP 5.6 5% 1/10W | |
| R55 | 1-216-309-00 | METAL CHIP 5.6 5% 1/10W | |
| R56 | 1-216-298-00 | METAL CHIP 2.2 5% 1/10W | (H2700, H3700:AEP) |
| R57 | 1-216-298-00 | METAL CHIP 2.2 5% 1/10W | (H3700:UK, G) |
| R71 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W | |
| R72 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R73 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R74 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R81 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | (H3700:UK, G) |
| R82 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | (H3700:UK, G) |
| R83 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | (H3700:UK, G) |
| R84 | 1-216-101-00 | METAL CHIP 150K 5% 1/10W | (H3700:UK, G) |
| R85 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | (H3700:UK, G) |
| R91 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | (H3700:UK, G) |
| R92 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | (H3700:UK, G) |
| R93 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | (H3700:UK, G) |
| R94 | 1-216-101-00 | METAL CHIP 150K 5% 1/10W | (H3700:UK, G) |
| R95 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | (H3700:UK, G) |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

9-957-110-11

**Sony Corporation**
**Audio Group**

**English**
92D0469-1
Printed in Japan

© 1992. 4

Published by Customer Relations and Service Group

6268

# SS-H2700E

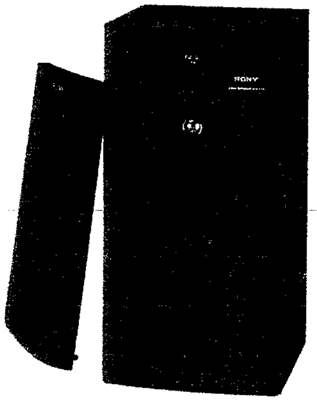
# SERVICE MANUAL

*E Model*
*Australian Model*
*Tourist Model*

## SPECIFICATIONS

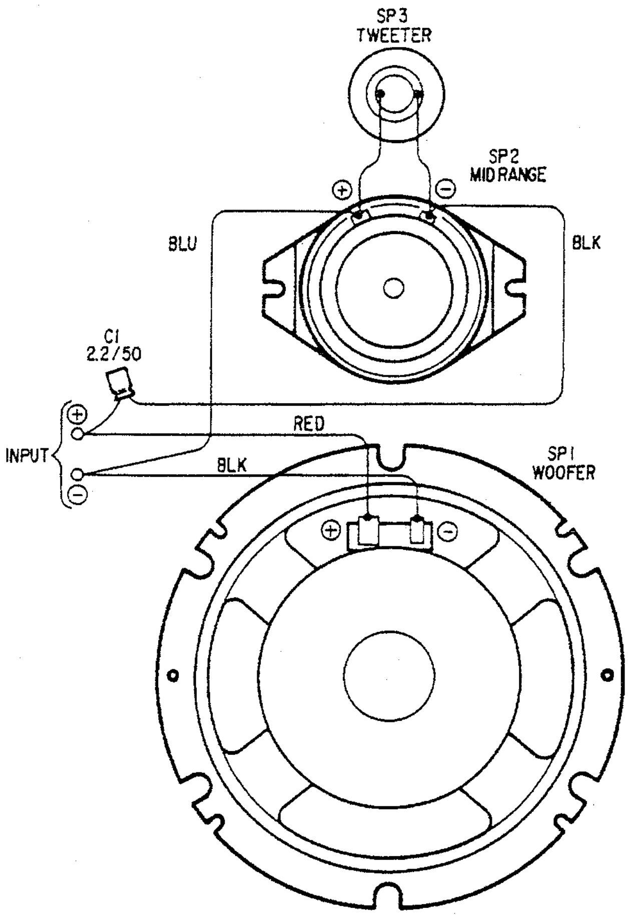
| | |
|---|---|
| Speaker system | 3-way |
| Speaker units | Woofer : 14cm(5$^{1}/_{2}$in.)cone tyep<br>Tweeter : 6cm(2$^{3}/_{8}$in.)cone tyep<br>Super Tweeter : 2cm($^{13}/_{16}$in.) dome type |
| Sensitivity | 89dB/W/m |
| Effective ftequency range | 55-20,000 Hz |
| Rated impedance | 6 ohms |
| Dimensions | Approx.185x365x225mm(w/h/d)<br>(7$^{3}/_{8}$ x 14$^{3}/_{8}$ x 8$^{7}/_{8}$ in.) |
| Weight | Approx. 4.2kg per speaker<br>(9 lb 4 oz) |

Design and specifications subject to change without notice.



This set is the speaker system in FH-E757 and FH-E705C

## 1. WIRING DIAGRAM


SP3
TWEETER
SP2
MID RANGE
⊕
⊖
BLU
BLK
C1
2.2/50
⊕
RED
INPUT
BLK
⊖
SP1
WOOFER
⊕
⊖

MICROFILM

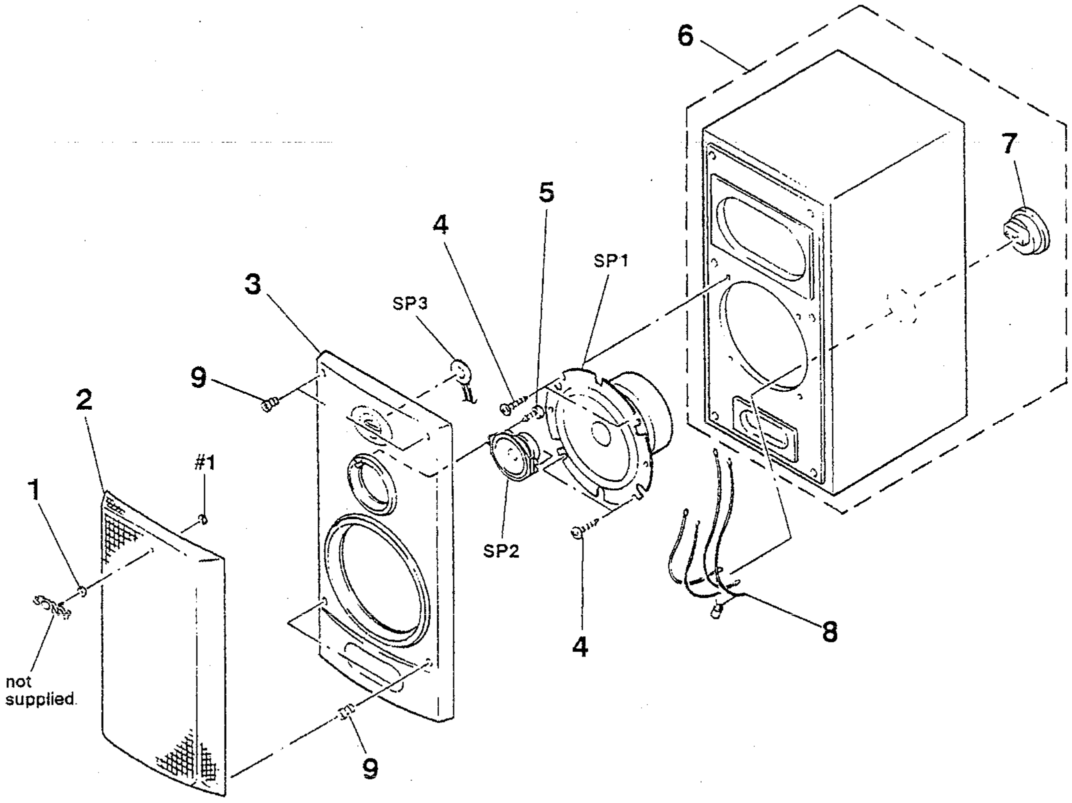
SPEAKER SYSTEM

SONY®

6268

## 2. EXPLODED VIEW AND PARTS LIST

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color indication of Appearance Parts.
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware ( # mark) list is given in the last of this parts list.
- The mechanical parts with no reference number in the exploded views are not supplied.



| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | 3-701-437-21 | WASHER | |
| * 2 | X-4942-273-1 | FRAME ASSY, GRILLE | |
| * 3 | X-4942-271-1 | PANEL (L) ASSY, FRONT | |
| * 3 | X-4942-272-1 | PANEL (R) ASSY, FRONT | |
| 4 | 4-874-614-11 | SCREW (4) (3.5×14), TAPPING | |
| 5 | 3-703-564-01 | SCREW, TAPPING | |
| * 6 | X-4942-269-1 | CABINET ASSY, SPEAKER | |
| 7 | 1-537-332-11 | TERMINAL BOARD | |
| 8 | 1-690-988-11 | CORD, CONNECTION | |
| 9 | 4-912-253-01 | CATCHER | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| SP1 | 1-544-631-21 | SPEAKER (130W007AV) | |
| SP2 | 1-544-650-11 | SPEAKER (6CM) | |
| SP3 | 1-544-293-11 | SPEAKER (2CM) | |
| | | <ACCESSORY & PACKING MATERIAL> | |
| * | 4-857-137-01 | CUSHION | |
| | 3-694-922-01 | SHEET, PROTECTION | |
| | | <HARDWARE LIST> | |
| #1 | 7-624-200-01 | NUT, PUSH 1.5 | |

English
92D0620-1
Printed in Japan
©1992.4
Published by Customer Relations and Service Group

9-957-111-11

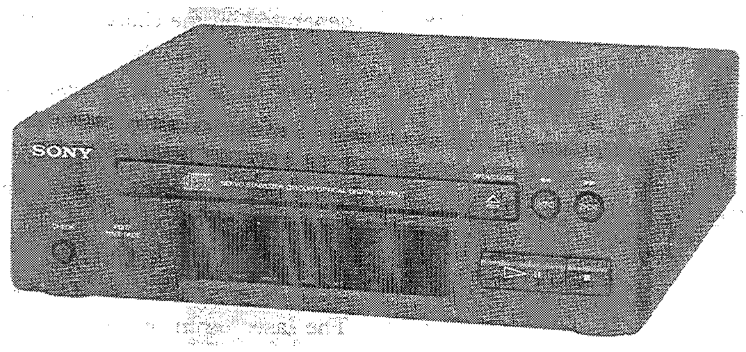
Sony Corporation
Audio Group

V13731

# CDP-H3700

# SERVICE MANUAL

*AEP Model*
*UK Model*



This set is the CD player section in MHC-2700/3700.

| | |
|---|---|
| Model Name Using Similar Mechanism | CDP-H3600 |
| CD Mechanism Type | CDM13BA-5BD3 |
| Optical Pick-Up Block Type | BU-5BD3 |

## SPECIFICATIONS

| | |
|---|---|
| System | Compact disc digital audio system |
| Laser | Semiconductor laser ($\lambda$ = 780 nm)<br>Emission duration: continuous |
| Laser output | Max. 44.6 μW*<br>* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block. |
| Signal to noise ratio | More than 90 dB |
| Dynamic range | More than 90 dB |
| Harmonic distortion | Less than 0.05% (at 1 kHz) |
| Channel separation | More than 90 dB |
| Output level | 2 V (at 50 kilohms) |
| Load impedance | More than 10 kilohms |
| Outputs | DIGITAL OUT OPTICAL (optical output connector):<br>wave length 660 nm,<br>output level –18 dBm |

Design and specifications subject to change without notice.

**For the United Kingdom and European countries.**

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

## COMPACT DISC PLAYER

SONY®

## TABLE OF CONTENTS

*Section* *Title* *Page*

### 1. GENERAL

1-1. Parts Identification ............................3

### 2. TEST MODES

2-1. Test Mode of Display Microcomputer (IC401) ....4
2-2. Test Mode of CD System Controller (IC202)......4

3. ELECTRICAL BLOCK CHECKING ...............5

### 4. DIAGRAMS

4-1. Pin Description ...............................7
4-2. Block Diagram ...............................9
4-3. Printed Wiring Boards .......................12
4-4. Schematic Diagram...........................15
4-5. Semiconductor Lead Layouts .................22

### 5. EXPLODED VIEWS

5-1. Chassis ....................................23
5-2. CD Block (CDM13BA-5BD3) ..................24
5-3. Optical Pick-Up Block (BU-5BD3) .............25

6. ELECTRICAL PARTS LIST .....................26

## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

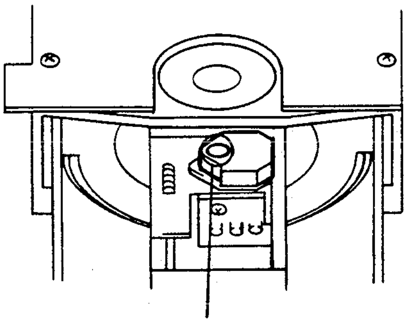
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential diference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

## NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

## LASER DIODE AND FOCUS SERCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.

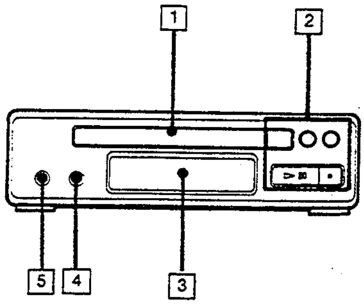


- Confirm that laser beam is spread.
- Up and down motion of the objective lens. (3 times)

# SECTION 1
# GENERAL

This section is extracted from instruction manual.

## 1-1. PARTS IDENTIFICATION



1 Disc tray
2 CD operation buttons
  ≜ : OPEN/CLOSE
  ▷II : Play/pause
  ■: Stop
  ◀◀ |◁◁▷▷| ▶▶ : Manual search (when kept depressed)/Automatic Music Sensor (when pressed)
3 Display window
4 EDIT/TIME FADE button (80) (92)
5 CHECK button

# SECTION 2
# TEST MODES

## 2-1. Test Mode of Display Microcomputer (IC401)

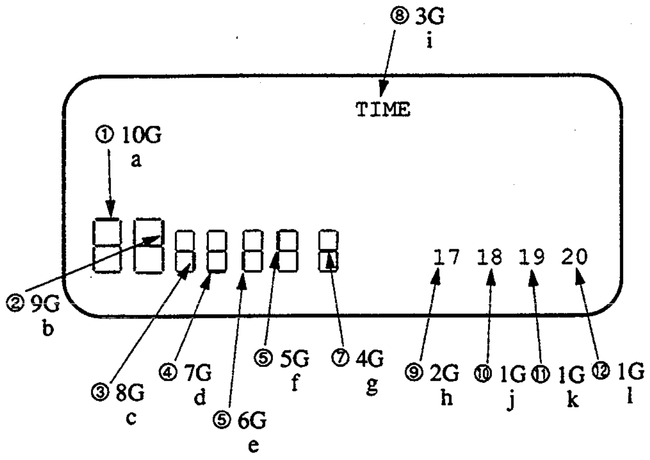
Connect Pin ㉝ of IC401 to ground and turn ON the POWER switch, thus you can test the following 3 tests.

**(1) All FL tube ON**

This mode is actuated immediately after turning ON the POWER switch.

**(2) FL tube segment check**

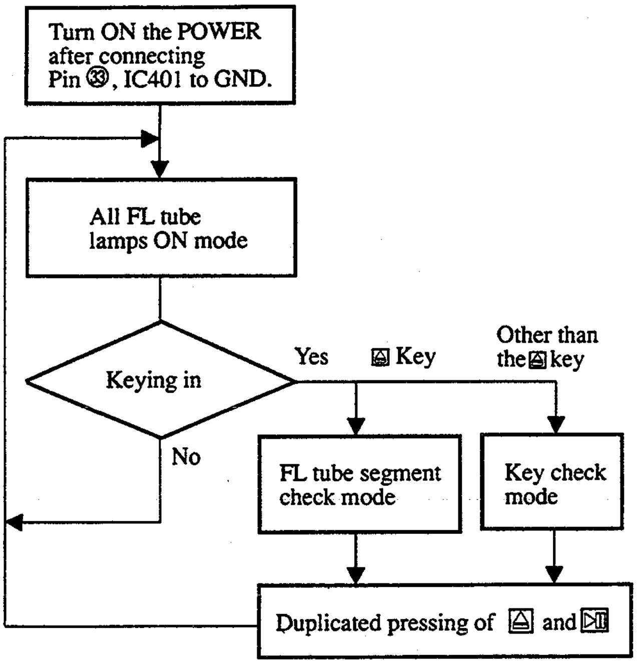
This mode is actuated by pressing the ⏏ key in the state of (1). Every time the ⏏ key is pressed, the segments are indicated sequentially from the segment a. When the last l segment is displayed, keying in is no longer accepted while continuing the lighting-up state of the last segment. Conditions are normal provided all lamps light up in the following order.


⑧ 3G
i
TIME
① 10G
a
② 9G
b
③ 8G
c
④ 7G
d
⑤ 6G
e
⑤ 5G
f
⑦ 4G
g
⑨ 2G
h
⑩ 1G
j
⑪ 1G
k
⑫ 1G
l
17 18 19 20

**(3) KEY check**

This mode is effected by pressing the ⏏ key in the state of (1), while indicating "1." Every time a new key is pressed subsequently, the indicated number is incremented. Conditions are normal provided "7" is indicated when all types of keys are pressed. Even if a key is pressed again, it is not counted.

* To leave the mode (2) or (3), press the ⏏ and ▷II keys in duplication, thereby the mode returning to all ON mode.


Turn ON the POWER after connecting Pin ㉝, IC401 to GND.
All FL tube lamps ON mode
Keying in
Yes
⏏ Key
Other than the ⏏ key
No
FL tube segment check mode
Key check mode
Duplicated pressing of ⏏ and ▷II

## 2-2. Test Modes of CD System Controller (IC202)

**(1) ADJUST mode**

When this mode is effected, the machine is operated normally except for the following.

- When pin ⑲, IC201 (ADJ) is set to "L" after turning ON the POWER switch:

1. GFS is no longer monitored during PLAY, PAUSE or SEARCH, while not stopping even with GFS remaining still at "L" (NG).
2. No high-speed feeding is activated during SEARCH.
3. Focus gain is reset to normal gain during PLAY (normally, the gain is lowered to reduce noise when FOCUS is locked).

- When Pin ⑬, IC201 (AFADJ) is set to "L" after turning ON the POWER switch:

1. Regardless of Pin ⑲ (ADJ) of the CLV-S fixed function, the CLV mode during PLAY becomes CLV-S (rough servo) only while Pin e remains "L".

**(2) AFADJUST mode**

In this mode, it is possible to check the interface between the display micon (IC401) and CD syscon (IC201).

- Set Pin ⑬, IC201 (AFADJ) to "L" before turning ON the POWER switch.

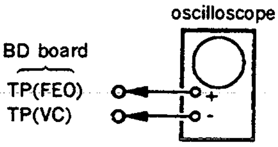
1. Every time the ⏏ key is pressed after turning On the POWER switch, indication on the FL tube is switched correspondingly. Conditions are normal provided the indication repeats the 4 patterns including all lamp ON.

# SECTION 3
# ELECTRICAL BLOCK CHECKING

**Note:**

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

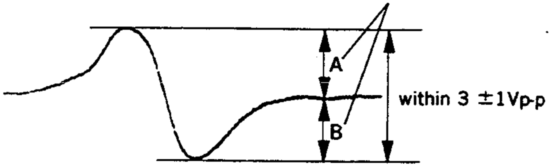
### S Curve Check



**Procedure:**

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

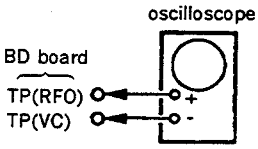
S curve waveform



5. After check, remove the lead wire connected in step 2.

**Note:**
- Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

### RF Level Check



**Procedure:**

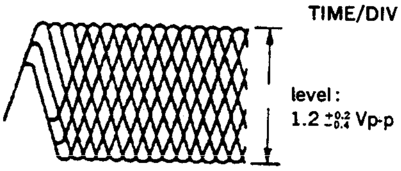
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note:**

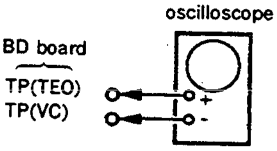
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform

VOLT/DIV: 200mV
TIME/DIV: 500nS



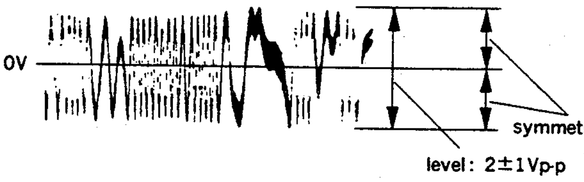
### E-F Balance Check



**Procedure:**

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

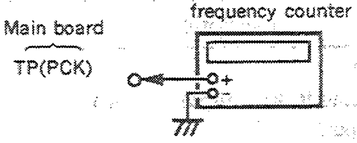


6. Remove the lead wire connected in step 1.

### RF PLL Free-run Frequency Check

**Procedure:**

1. Connect frequency counter to test point (PCK) with lead wire.


Main board
TP(PCK)
frequency counter
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

### Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.

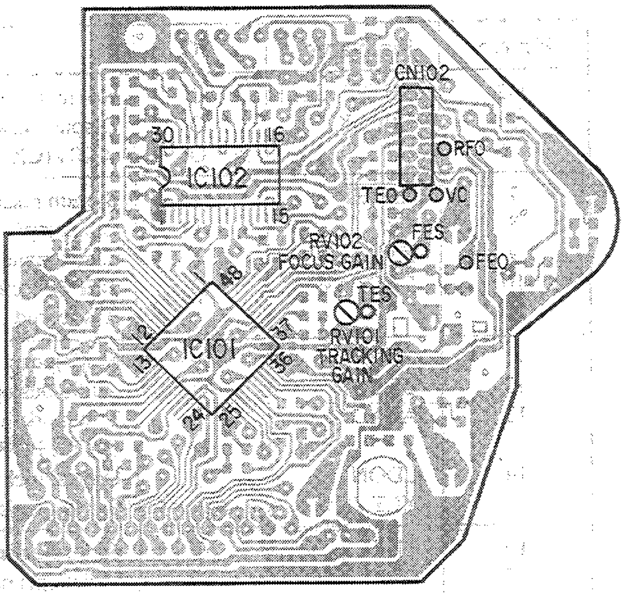
Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

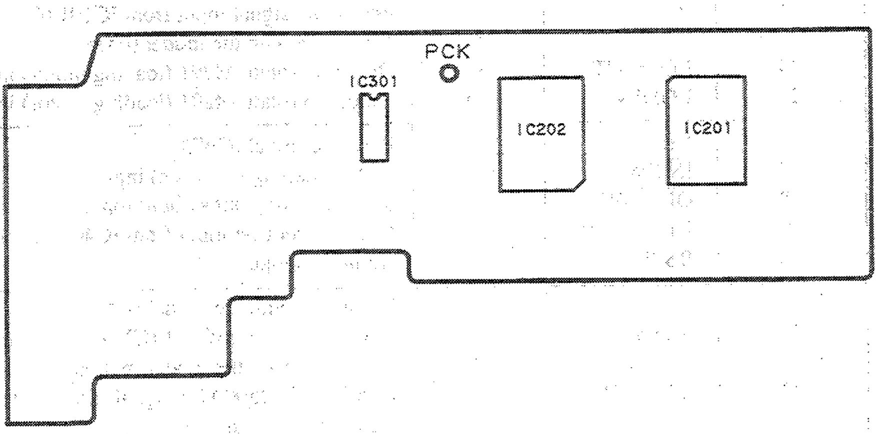
**Checking Location:**

[BD Board]

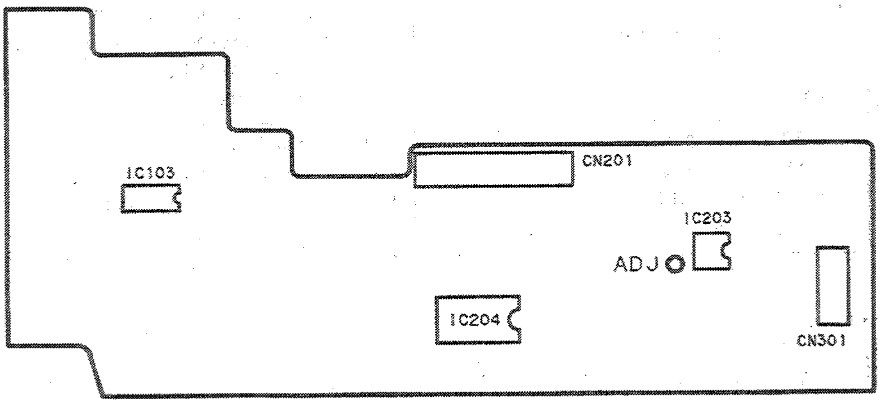
—Conductor Side—


CN102
RFO
30
16
IC102
15
TEO
VC
RV102
FOCUS GAIN
FES
FEO
48
TES
RV101
TRACKING
GAIN
12
13
IC101
37
36
24
25

[MAIN Board] —Component Side—


PCK
IC301
IC202
IC201

[MAIN Board] —Conductor Side—


IC103
CN201
IC203
ADJ
IC204
CN301

# SECTION 4
# DIAGRAMS

## 4-1. PIN DESCRIPTION

### • IC201 CD System Controller (μPD75116GF-F21-3BE)

Functions effected by the captioned controller include IC101 (RF signal processing, servo), IC202 (DSP, digital filter) and loading control in the CD unit, data exchange with IC401 (display controller), audio bus entry, etc.

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1-2 | G MUTE, GCLR | O | Not in use with the model (open). |
| 3 | DPCLK | O | Display data transfer clock output to IC401 (display micon) |
| 4-6 |  | O | IC204 (CXD2554M) control output. |
| 7 | RESET | I | System reset input. "L": Reset |
| 8 | X2 | I | Clock input |
| 9 | X1 | I | Clock input (4 MHz) |
| 10 | DFCT SW | O | DEFECT circuit ON/OFF switching output of IC101 (CXA1372Q). It is turned OFF ("H") to focus-search the DISC flaw detection circuit. |
| 11 | AMUTE | O | Muting control output. "H": Mute |
| 12 | BSOUT | O | Audio bus output |
| 13 | AFADJ | I | Test mode input. Various test operations are effected upon "L" after turning ON the POWER. |
| 14 | LDON | O | Optical pickup laser diode ON/OFF switching output. "H": ON |
| 15 | XLT | O | Serial data latch output to IC202 (CXD2500AQ) |
| 16 | CLK | O | Serial data transfer clock output to IC202 (CXD2500AQ) |
| 17 | DATA | O | Serial data output to IC202 (CXD2500AQ) |
| 18 | MODE | I | Not in use with the model (GND) |
| 19 | ADJ | I | Test mode input. Upon "L," GFS checking is disabled while continuously rotating the spindle no matter whether frame synch is issued during PLAY, PAUSE or SEARCH. |
| 20 | GFS | I | GFS signal input from IC202 (CXD2500AQ). "L": NG "H": OK |
| 21 | FOK | I | Focus OK signal input from IC101 (CXA1372Q). "H": OK |
| 22 - 23 |  | O | Not in use with the model (open) |
| 24 | LODOUT | O | Output to rotate M291 (loading motor) in the loading out direction. *1 |
| 25 | LODIN | O | Output to rotate M291 (loading motor) in the loading in direction. *1 |
| 26 | Vss | – | Power terminal (GND) |
| 27 | IN SW | I | S292 (Loading in switch) input |
| 28 | OUT SW | I | S291 (Loading out switch) input |
| 29 | KEY REQ | I | Key data request input from IC401 (display controller) |
| 30 | BS IN | I | Audio bus input |
| 31 - 36 |  |  | Not in use with the model (GND) |
| 37 | SENS | I | SENS input from IC101 (CXA1372Q) and IC202 (CXD2500AQ) |
| 38 | TIMER | I | Not in use with the model (pull up) |
| 39 | D/F 16BIT | I<br>I | IC202 (CXD2500AQ) digital filter mode setting input. It is fixed at 16 bit, 4fs with the model (pull up). |
| 40 |  |  | Not in use with the model (GND) |
| 41 | SUBQ | I | Subcode Q data input from IC202 (CXD2500AQ) |
| 42 |  | O | Not in use with the model (open) |
| 43 | SQCLK | O | Subcode Q data readout clock output to IC202 (CXD2500AQ) |
| 44 | SCOR | I | Subcode sync S0 + S1 detection input from IC202 (CXD2500AQ) |
| 45 - 56 |  | O | Not in use with the model (open) |
| 57 | N.C. | I | Not in use with the model (+5V) |
| 58 | VDD | – | Power terminal (+5V) |
| 59 - 62 | DPDATA3-0 | I/O | Key data input and display data output with IC401 (display controller) |
| 63 - 64 |  | O | Not in use with the model (open) |

*1 Loading motor control

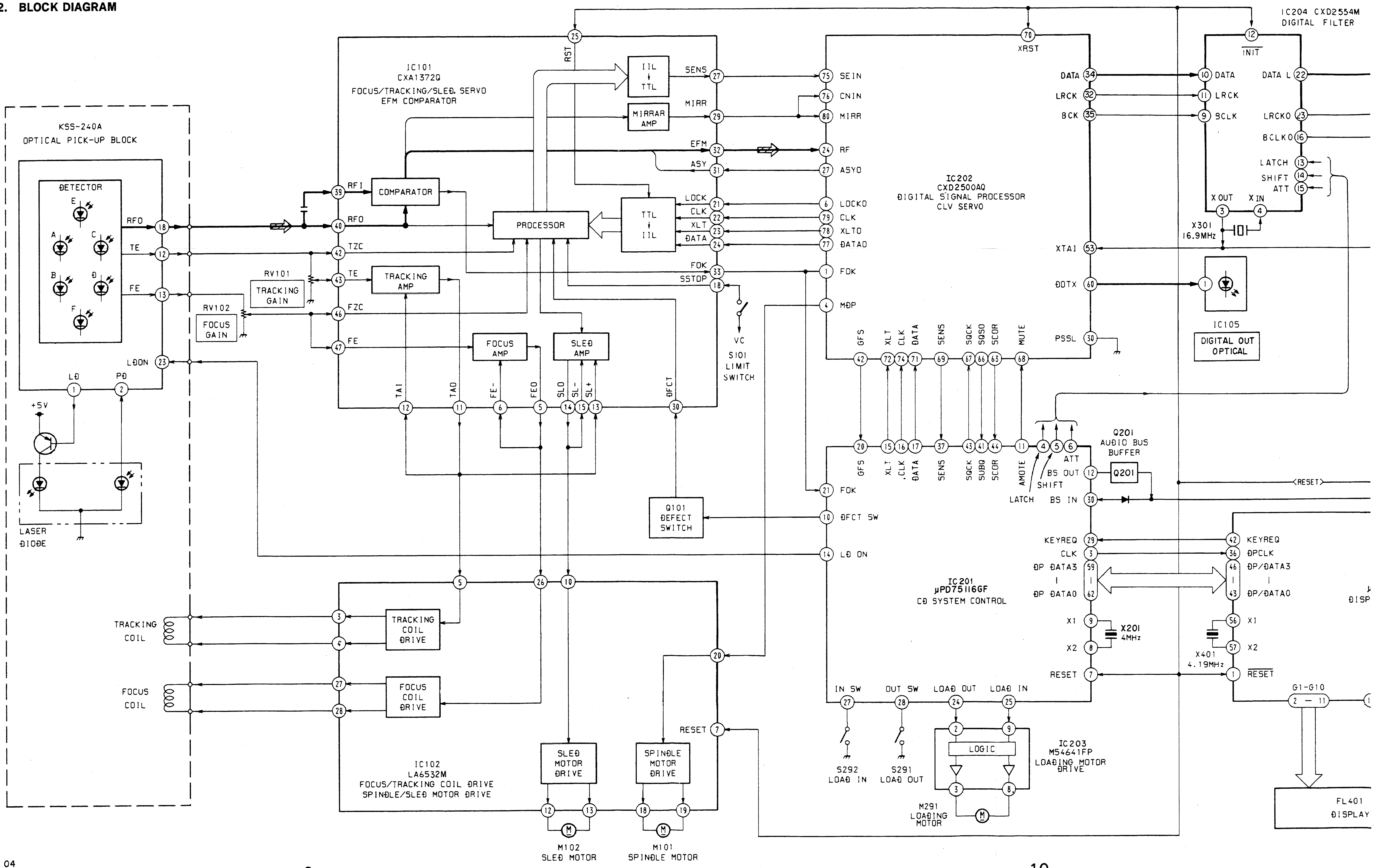
|  | IN | OUT | BRAKE |
|---|---|---|---|
| LODOUT ㉔ | L | H | H |
| LODIN ㉕ | H | L | H |

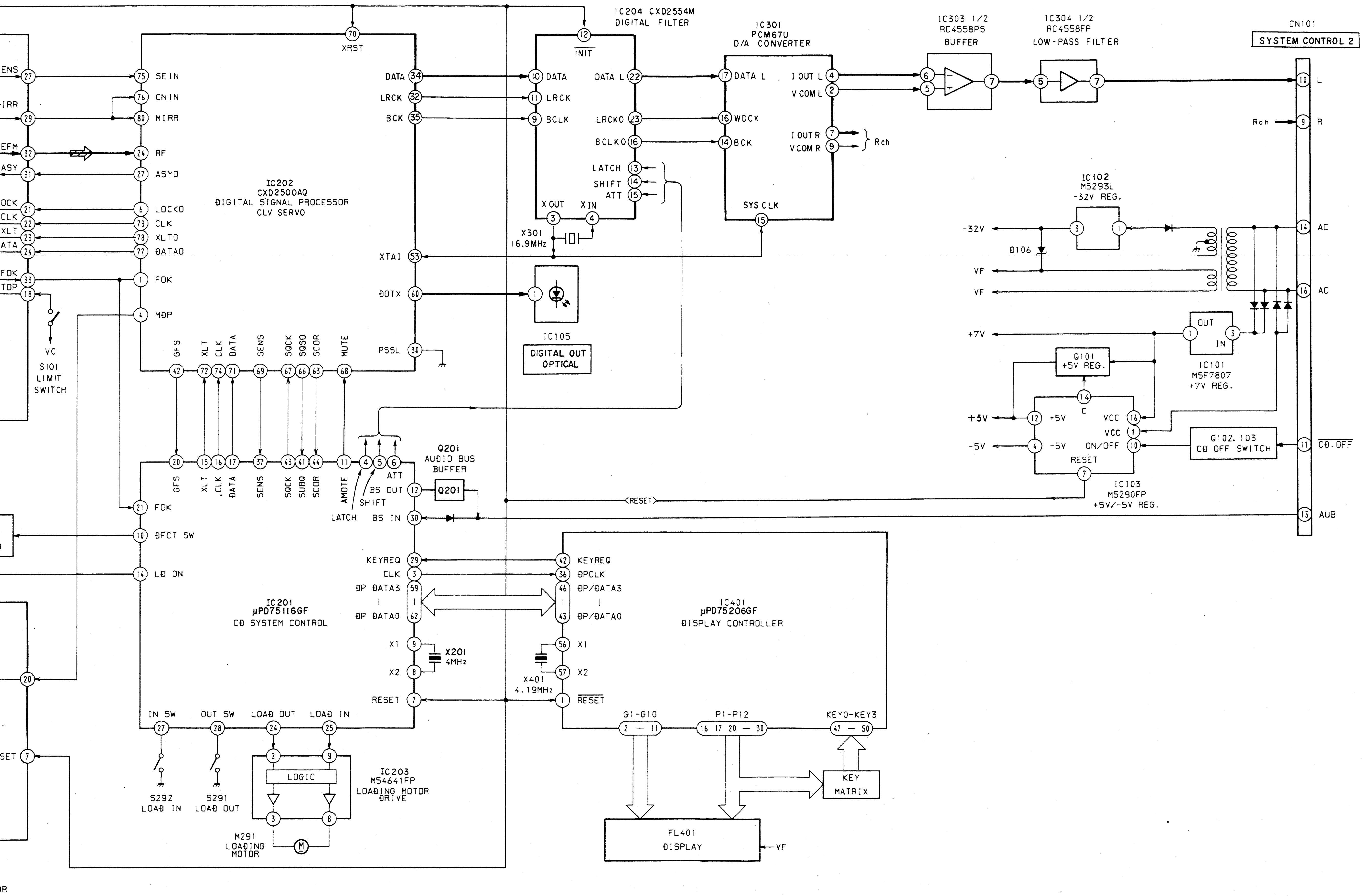
### • IC401 Display controller (μPD75206GF-716-3BE)

In charge of displaying the FL tube and keying in, it exchanges data with the IC201 (CD system controller) in 4-bit parallel mode.

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | $\overline{\text{RESET}}$ | I | System reset input. "L": Reset |
| 2 - 11 | G1-10 | O | Digital output to the FL tube |
| 12 - 15 | | O | Not in use with the model (open) |
| 16, 17 | l, k | O | FL tube segment output |
| 18 | VLOAD | – | Power supply for the FL tube controller (builtin) (-32V) |
| 19 | VPRE | – | Power supply for the FL tube predriver (-3.5V) |
| 20 - 25 | j ~ e | O | FL tube segment output |
| 26 | VDD | – | Power terminal (+5V) |
| 27, 28 | d, c | O | FL tube segment output |
| 29, 30 | b, a | O | FL tube segment, key scan output |
| 31, 32 | | I | Not in use with the model (GND) |
| 33 | $\overline{\text{TEST}}$ | I | Test mode input. "L": Test mode |
| 34 | SELECT | I | Not in use with the model (pull up) |
| 35 | BSIN | I | Not in use with the model (pull up) |
| 36 | DPCLK | I | Display data transfer clock input from IC201 (CD system controller) |
| 37, 38 | | I | Not in use with the model (pull up) |
| 39 | | O | Not in use with the model (pull up) |
| 40, 41 | | O | Not in use with the model (open) |
| 42 | KEY REQ | O | Key data request output to IC201 (CD system controller) |
| 43 - 46 | DPDATA0-3 | I/O | Key data output and display data input with IC201 (CD system controller) |
| 47 - 50 | KEY0-3 | I | Key data input |
| 51, 52 | | I | Not in use with the model (pull up) |
| 53, 54 | | I | Not in use with the model (GND) |
| 55 | | O | Not in use with the model (open) |
| 56 | X1 | I | System clock input (4.19 MHz) |
| 57 | X2 | I | System clock input |
| 58 | Vss | – | Power supply terminal (GND) |
| 59 | | I | Not in use with the model (GND) |
| 60 - 64 | | O | Not in use with the model (open) |

## 4-2. BLOCK DIAGRAM


KSS-240A
OPTICAL PICK-UP BLOCK
DETECTOR
E
A
C
B
D
F
RFO
TE
FE
LDON
LD
PD
+5V
LASER DIODE
RV101
TRACKING GAIN
RV102
FOCUS GAIN
IC101
CXA1372Q
FOCUS/TRACKING/SLED SERVO
EFM COMPARATOR
RST
RFI
RFO
TZC
TE
FZC
FE
COMPARATOR
PROCESSOR
TRACKING AMP
FOCUS AMP
SLED AMP
IIL ↓ TTL
MIRRAR AMP
TTL ↓ IIL
SENS
MIRR
EFM
ASY
LOCK
CLK
XLT
DATA
FOK
SSTOP
TAI
TAO
FE-
FEO
SLO
SL-
SL+
DFCT
VC
S101
LIMIT SWITCH
Q101
DEFECT SWITCH
TRACKING COIL
FOCUS COIL
TRACKING COIL DRIVE
FOCUS COIL DRIVE
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
RESET
IC102
LA6532M
FOCUS/TRACKING COIL DRIVE
SPINDLE/SLED MOTOR DRIVE
M102
SLED MOTOR
M101
SPINDLE MOTOR
XRST
SEIN
CNIN
MIRR
RF
ASYO
LOCKO
CLK
XLTO
DATAO
FOK
MDP
IC202
CXD2500AQ
DIGITAL SIGNAL PROCESSOR
CLV SERVO
DATA
LRCK
BCK
XTAI
DOTX
PSSL
GFS
XLT
CLK
DATA
SENS
SQCK
SQSO
SCOR
MUTE
GFS
XLT
CLK
DATA
SENS
SQCK
SUBQ
SCOR
AMOTE
LATCH
SHIFT
ATT
BS OUT
BS IN
Q201
AUDIO BUS BUFFER
FOK
DFCT SW
LD ON
IC201
μPD75116GF
CD SYSTEM CONTROL
KEYREQ
CLK
DP DATA3
DP DATA0
X1
X2
RESET
X201
4MHz
IN SW
OUT SW
LOAD OUT
LOAD IN
S292
LOAD IN
S291
LOAD OUT
LOGIC
IC203
M54641FP
LOADING MOTOR DRIVE
M291
LOADING MOTOR
IC204 CXD2554M
DIGITAL FILTER
INIT
DATA
LRCK
BCLK
DATA L
LRCKO
BCLKO
LATCH
SHIFT
ATT
X OUT
X IN
X301
16.9MHz
IC105
DIGITAL OUT OPTICAL
RESET
KEYREQ
DPCLK
DP/DATA3
DP/DATA0
X1
X2
X401
4.19MHz
RESET
G1-G10
FL401
DISPLAY


IC204 CXD2554M
DIGITAL FILTER
IC301
PCM67U
D/A CONVERTER
IC303 1/2
RC4558PS
BUFFER
IC304 1/2
RC4558FP
LOW-PASS FILTER
CN101
SYSTEM CONTROL 2
XRST
SEIN
CNIN
MIRR
RF
ASYO
LOCKO
CLK
XLTO
DATAO
FOK
MDP
IC202
CXD2500AQ
DIGITAL SIGNAL PROCESSOR
CLV SERVO
DATA
LRCK
BCK
XTAI
DOTX
PSSL
INIT
DATA L
LRCKO
BCLKO
LATCH
SHIFT
ATT
X OUT
X IN
X301
16.9MHz
WDCK
I OUT L
V COM L
I OUT R
V COM R
Rch
SYS CLK
L
R
AC
IC102
M5293L
-32V REG.
-32V
D106
VF
+7V
OUT
IN
IC101
M5F7807
+7V REG.
Q101
+5V REG.
+5V
-5V
VCC
ON/OFF
RESET
IC103
M5290FP
+5V/-5V REG.
Q102, 103
CD OFF SWITCH
CD.OFF
AUB
IC105
DIGITAL OUT
OPTICAL
GFS
XLT
SENS
SQCK
SQSO
SCOR
MUTE
SUBQ
AMOTE
BS OUT
BS IN
Q201
AUDIO BUS
BUFFER
RESET
VC
S101
LIMIT
SWITCH
DFCT SW
LD ON
KEYREQ
DPCLK
DP DATA3
DP DATA0
DP/DATA3
DP/DATA0
IC201
µPD75116GF
CD SYSTEM CONTROL
IC401
µPD75206GF
DISPLAY CONTROLLER
X1
X2
X201
4MHz
X401
4.19MHz
IN SW
OUT SW
LOAD OUT
LOAD IN
LOGIC
IC203
M54641FP
LOADING MOTOR
DRIVE
S292
LOAD IN
S291
LOAD OUT
M291
LOADING
MOTOR
M
G1-G10
P1-P12
KEY0-KEY3
KEY
MATRIX
FL401
DISPLAY
ENS
IRR
EFM
ASY
OCK
CLK
XLT
ATA
FOK
TOP
SET

## 4-3. PRINTED WIRING BOARDS

• Refer to page 22 for Semiconductor Lead Layouts.

**• Semiconductor Location**

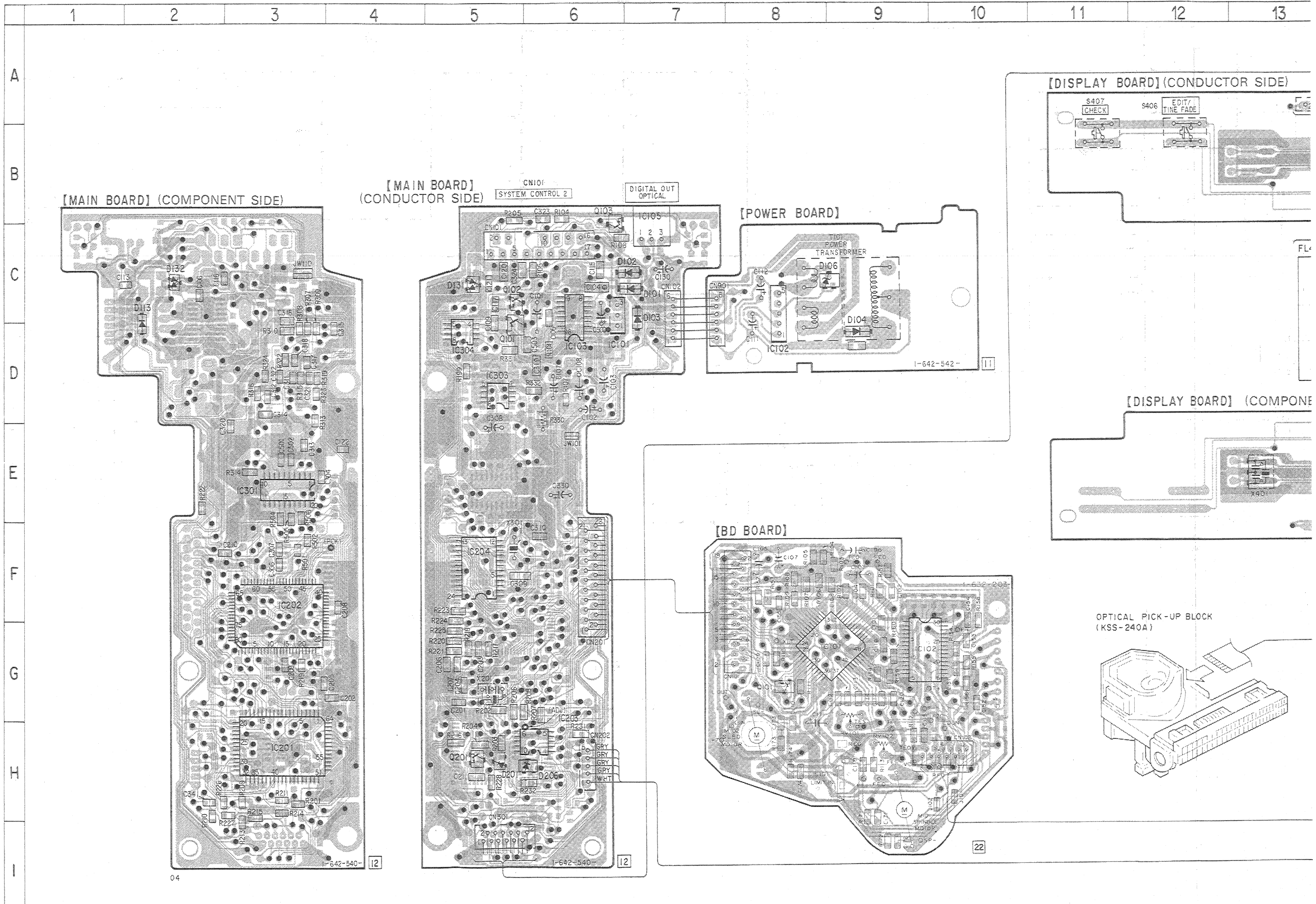
**Except BD Board**

| Ref. No. | Location |
|---|---|
| D101 | C-7 |
| D102 | C-6 |
| D103 | C-7 |
| D104 | D-9 |
| D106 | C-8 |
| D113 | C-2 |
| D131 | C-5 |
| D132 | C-2 |
| D201 | H-5 |
| D206 | H-6 |
| D401 | E-15 |
| D402 | E-18 |
| D403 | E-14 |
| IC101 | D-6 |
| IC102 | C-8 |
| IC103 | D-6 |
| IC105 | B-7 |
| IC201 | H-3 |
| IC202 | F-3 |
| IC203 | H-6 |
| IC204 | F-5 |
| IC301 | E-3 |
| IC303 | D-5 |
| IC304 | D-5 |
| IC401 | E-14 |
| Q101 | D-5 |
| Q102 | C-5 |
| Q103 | B-6 |
| Q201 | H-5 |

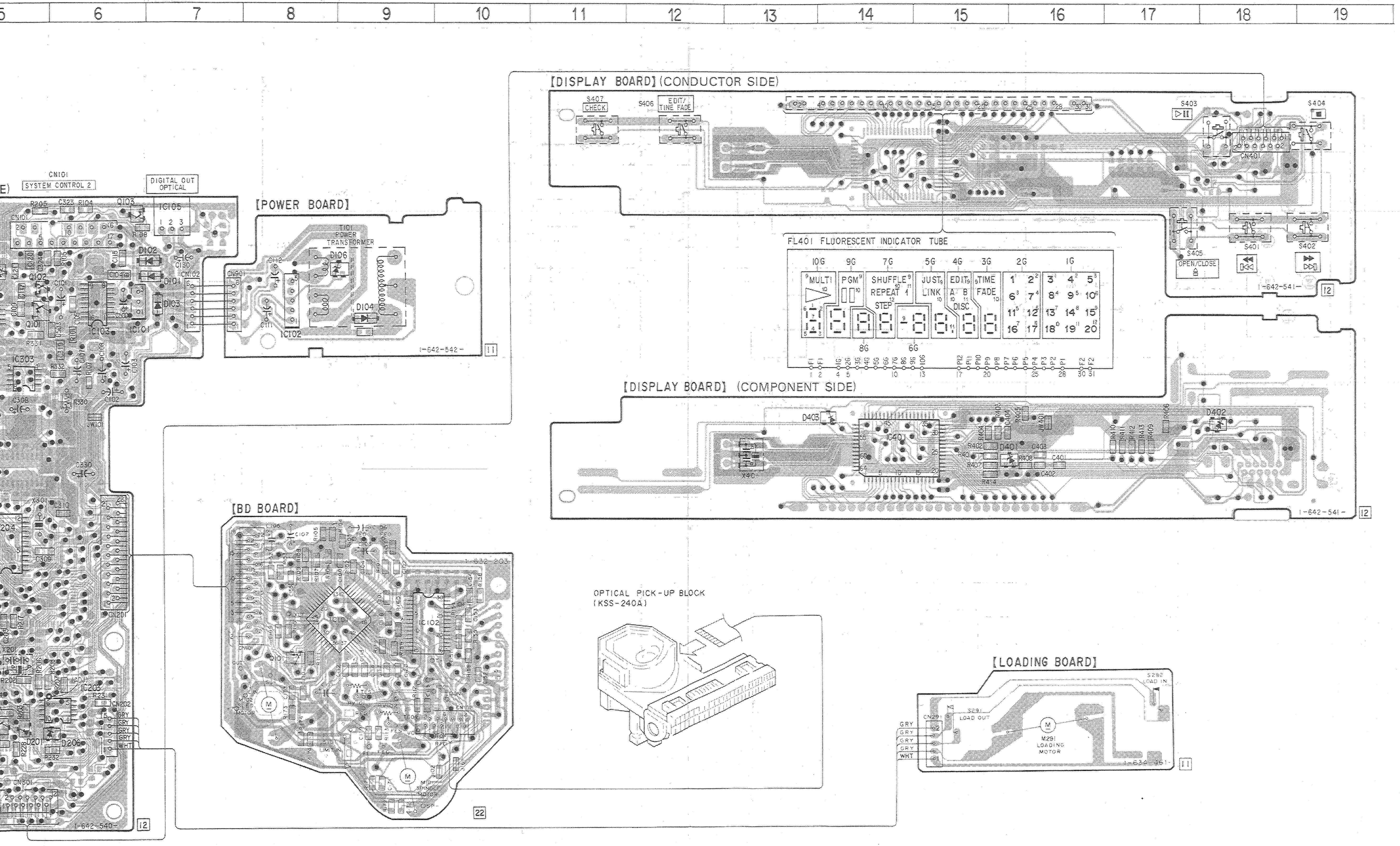
**BD Board**

| Ref. No. | Location |
|---|---|
| IC101 | G-8 |
| IC102 | G-9 |
| Q101 | G-8 |

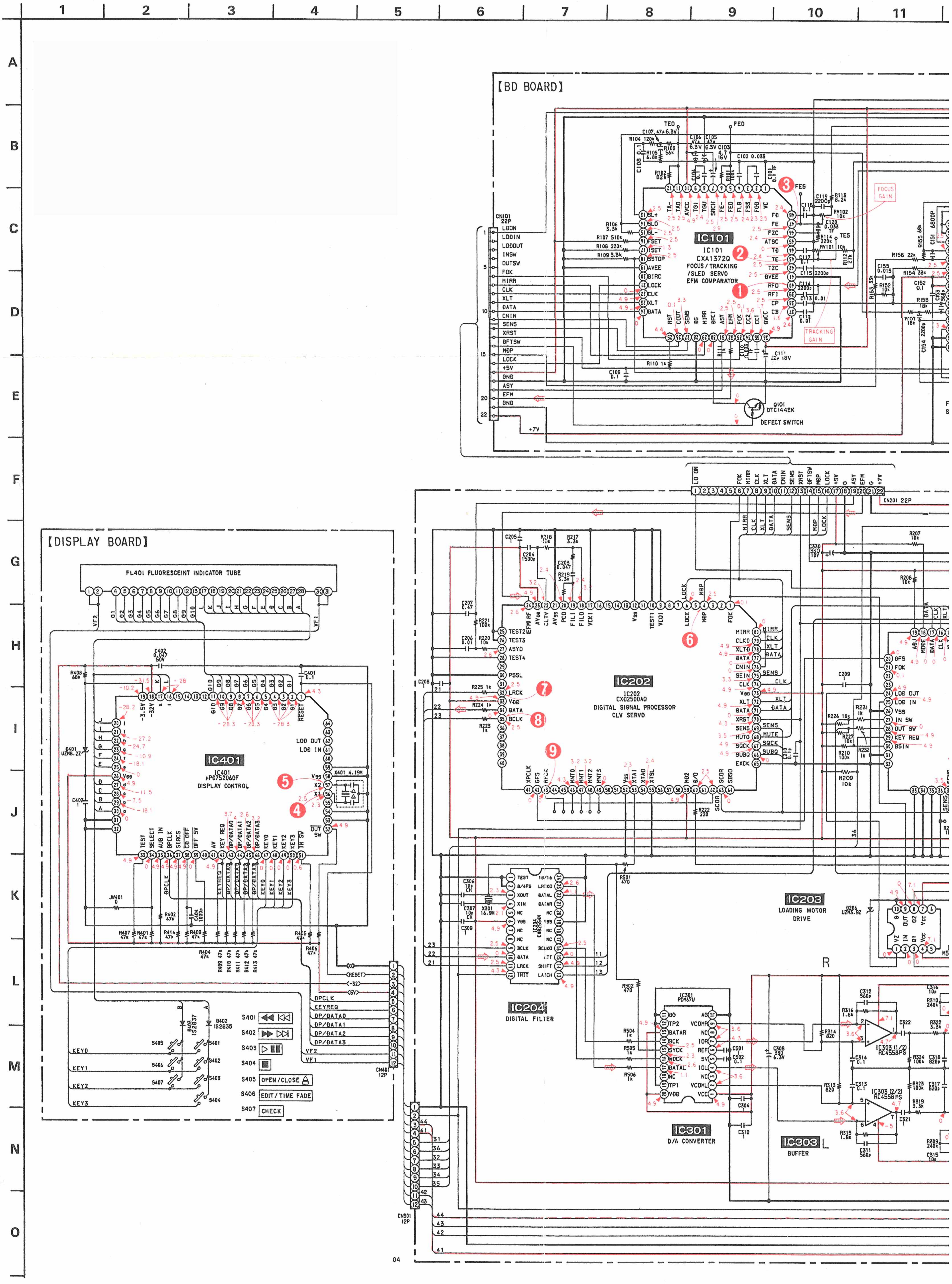
Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

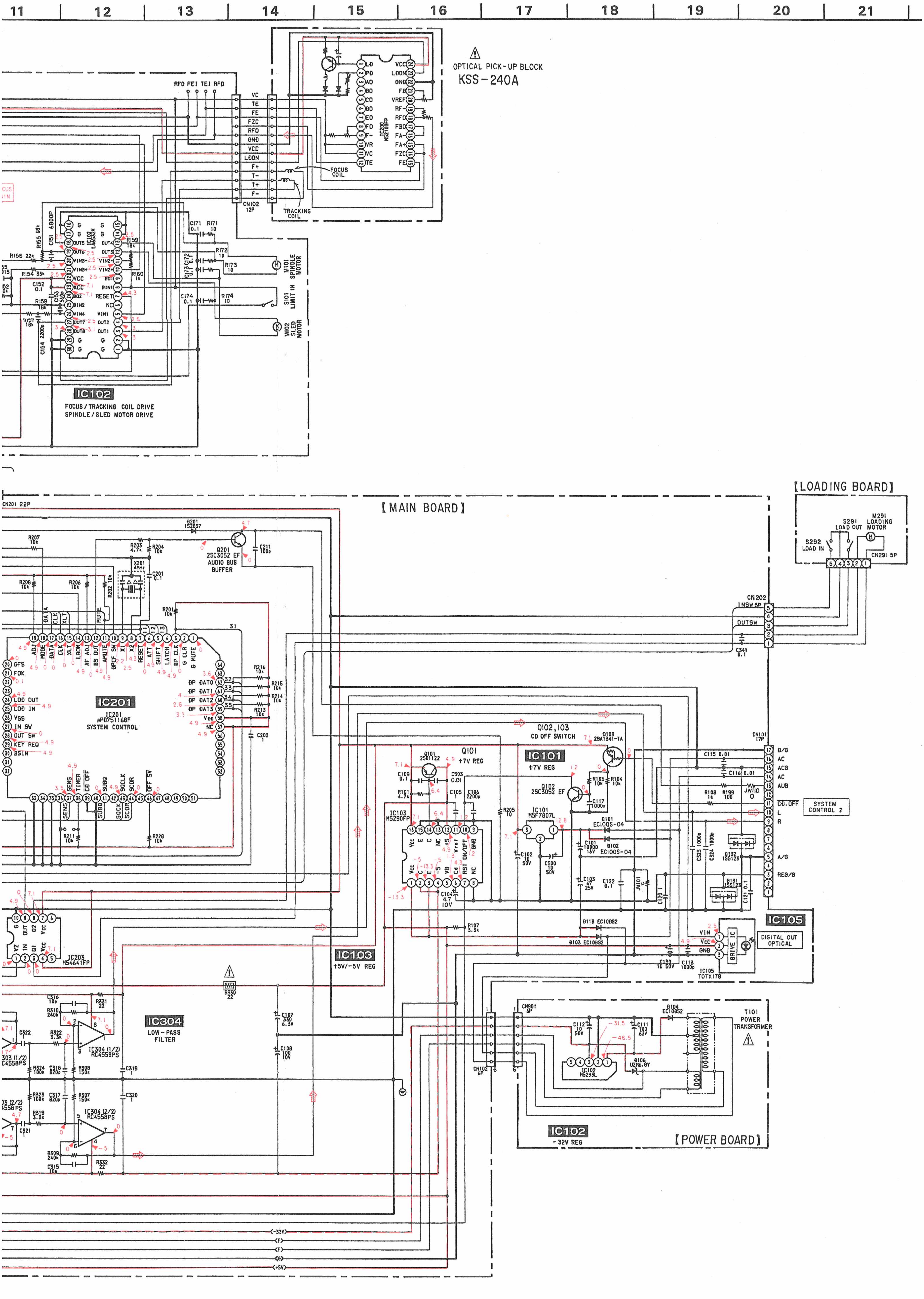

1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
[MAIN BOARD] (COMPONENT SIDE)
[MAIN BOARD] (CONDUCTOR SIDE)
CN101
SYSTEM CONTROL 2
DIGITAL OUT OPTICAL
IC105
Q103
D102
D101
D103
D131
D132
D113
IC101
IC103
IC303
IC304
Q101
Q102
IC301
IC202
IC201
IC204
IC203
Q201
D201
D206
CN201
CN202
CN301
1-642-540-
12
[POWER BOARD]
T101 POWER TRANSFORMER
D106
D104
IC102
CN901
1-642-542-
11
[DISPLAY BOARD] (CONDUCTOR SIDE)
S407 CHECK
S406
EDIT/ TIME FADE
FL4
[DISPLAY BOARD] (COMPONE
X401
[BD BOARD]
IC101
IC102
M
SLED
SPINDLE MOTOR
1-632-203-
22
OPTICAL PICK-UP BLOCK (KSS-240A)

Layouts.


5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
[DISPLAY BOARD] (CONDUCTOR SIDE)
S407 CHECK
S406 EDIT/ TIME FADE
S403
S404
CN401
S405 OPEN/CLOSE
S401
S402
1-642-541-
12
FL401 FLUORESCENT INDICATOR TUBE
10G
9G
7G
5G
4G
3G
2G
1G
8G
6G
MULTI
PGM
SHUFFLE
REPEAT
STEP
JUST
LINK
EDIT
A B
DISC
TIME
FADE
[DISPLAY BOARD] (COMPONENT SIDE)
D403
IC401
X401
D401
D402
1-642-541-
12
CN101 SYSTEM CONTROL 2
DIGITAL OUT OPTICAL
IC105
IC101
IC103
IC303
Q101
Q102
Q103
D101
D102
D103
CN102
CN201
CN202
CN501
IC203
D201
D206
X201
X301
1-642-540-
12
[POWER BOARD]
CN901
T101 POWER TRANSFORMER
D106
D104
IC102
1-642-542-
11
[BD BOARD]
IC101
IC102
M101 SLED MOTOR
M102 SPINDLE MOTOR
1-632-203-
22
OPTICAL PICK-UP BLOCK (KSS-240A)
[LOADING BOARD]
S292 LOAD IN
S291 LOAD OUT
CN291
M291 LOADING MOTOR
GRY
GRY
GRY
GRY
WHT
1-634-361-
11

## 4-4. SCHEMATIC DIAGRAM • Refer to page 19 for IC Block Diagrams.

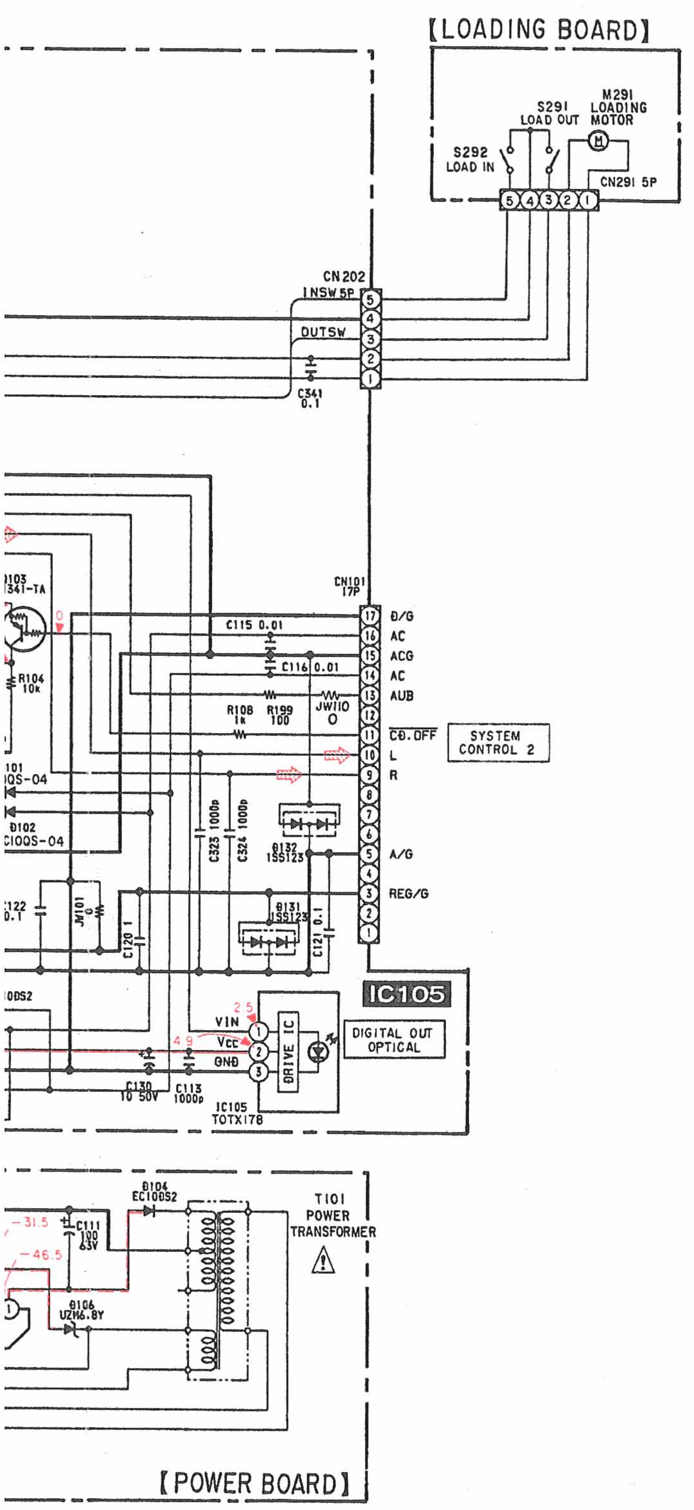

【BD BOARD】
IC101
CXA1372Q
FOCUS/TRACKING /SLED SERVO EFM COMPARATOR
FOCUS GAIN
TRACKING GAIN
Q101 DTC144EK
DEFECT SWITCH
CN101 22P
CN201 22P
IC202
CXD2500AQ
DIGITAL SIGNAL PROCESSOR CLV SERVO
IC203
LOADING MOTOR DRIVE
IC204
DIGITAL FILTER
IC301
PCM67U
D/A CONVERTER
IC303
BUFFER
IC303 (1/2) RC4558PS
IC303 (2/2) RC4558PS
R
L
【DISPLAY BOARD】
FL401 FLUORESCEINT INDICATOR TUBE
IC401
IC401 µPD75206GF
DISPLAY CONTROL
X401 4.19M
S401
S402
S403
S404
S405 OPEN/CLOSE
S406 EDIT/TIME FADE
S407 CHECK
CN401 12P
CN301 12P
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O


11
12
13
14
15
16
17
18
19
20
21
OPTICAL PICK-UP BLOCK
KSS-240A
IC200 M52105FP
FOCUS COIL
TRACKING COIL
CN102 12P
RFO FEI TEI RFD
VC
TE
FE
FZC
RFO
GND
VCC
LDON
F+
T-
T+
F-
M101 SPINDLE MOTOR
S101 LIMIT IN
M102 SLED MOTOR
IC102
FOCUS/TRACKING COIL DRIVE
SPINDLE/SLED MOTOR DRIVE
IC102 LA6532M
[MAIN BOARD]
[LOADING BOARD]
S291 LOAD OUT
M291 LOADING MOTOR
S292 LOAD IN
CN291 5P
CN202 1NSW 5P
OUTSW
Q201 1S2837
Q201 2SC3052 EF
AUDIO BUS BUFFER
X201 4MHz
IC201
IC201 μPD75116GF
SYSTEM CONTROL
Q102, 103
CD OFF SWITCH
Q103 2SA1341-TA
Q101 2SB1122
Q101
+7V REG
IC101
+7V REG
Q102 2SC3052 EF
IC101 M5F7807L
IC103 M5290FP
IC103
+5V/-5V REG
CN101 17P
SYSTEM CONTROL 2
IC105
DIGITAL OUT OPTICAL
IC105 TOTX178
IC203 M54641FP
IC304
LOW-PASS FILTER
IC304 (1/2) RC4558PS
IC304 (2/2) RC4558PS
CN901 6P
CN102 6P
T101 POWER TRANSFORMER
IC102 M5293L
IC102
-32V REG
[POWER BOARD]
D104 EC10DS2
D106 UZM6.8Y
D113 EC10DS2
D103 EC10DS2
D101 EC10QS-04
D102 EC10QS-04
D131 1SS123
D132 1SS123
JW101

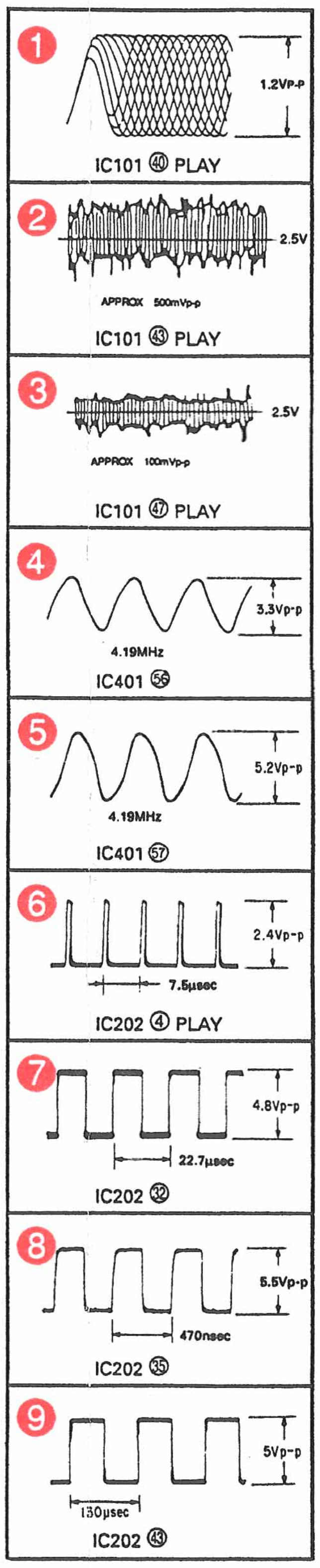
Note:
- All c
50W
and
- All
spec

Note:

- Volta
no-si
no m
- Volt
Volt
tion
- Wave
Volt
tion
- Circl
- Signa


[LOADING BOARD]
S291
LOAD OUT
M291
LOADING
MOTOR
S292
LOAD IN
CN291 5P
CN202
INSW5P
OUTSW
C341
0.1
CN101
17P
C115 0.01
C116 0.01
R104
10k
R108
1k
R109
100
JW110
0
D/G
AC
ACG
AC
AUB
CD.OFF
L
R
A/G
REG/G
SYSTEM
CONTROL 2
C323 1000p
C324 1000p
D132
1SS123
D131
1SS123
C121
0.1
C120
0.1
C122
0.1
JW101
0
IC105
VIN
Vcc
GND
DRIVE IC
DIGITAL OUT
OPTICAL
C130
10 50V
C113
1000p
IC105
TOTX178
2.5
4.9
D104
EC10QS2
C111
100
63V
D106
UZH6.8Y
T101
POWER
TRANSFORMER
-31.5
-46.5
[POWER BOARD]

## Waveforms



**Note:**

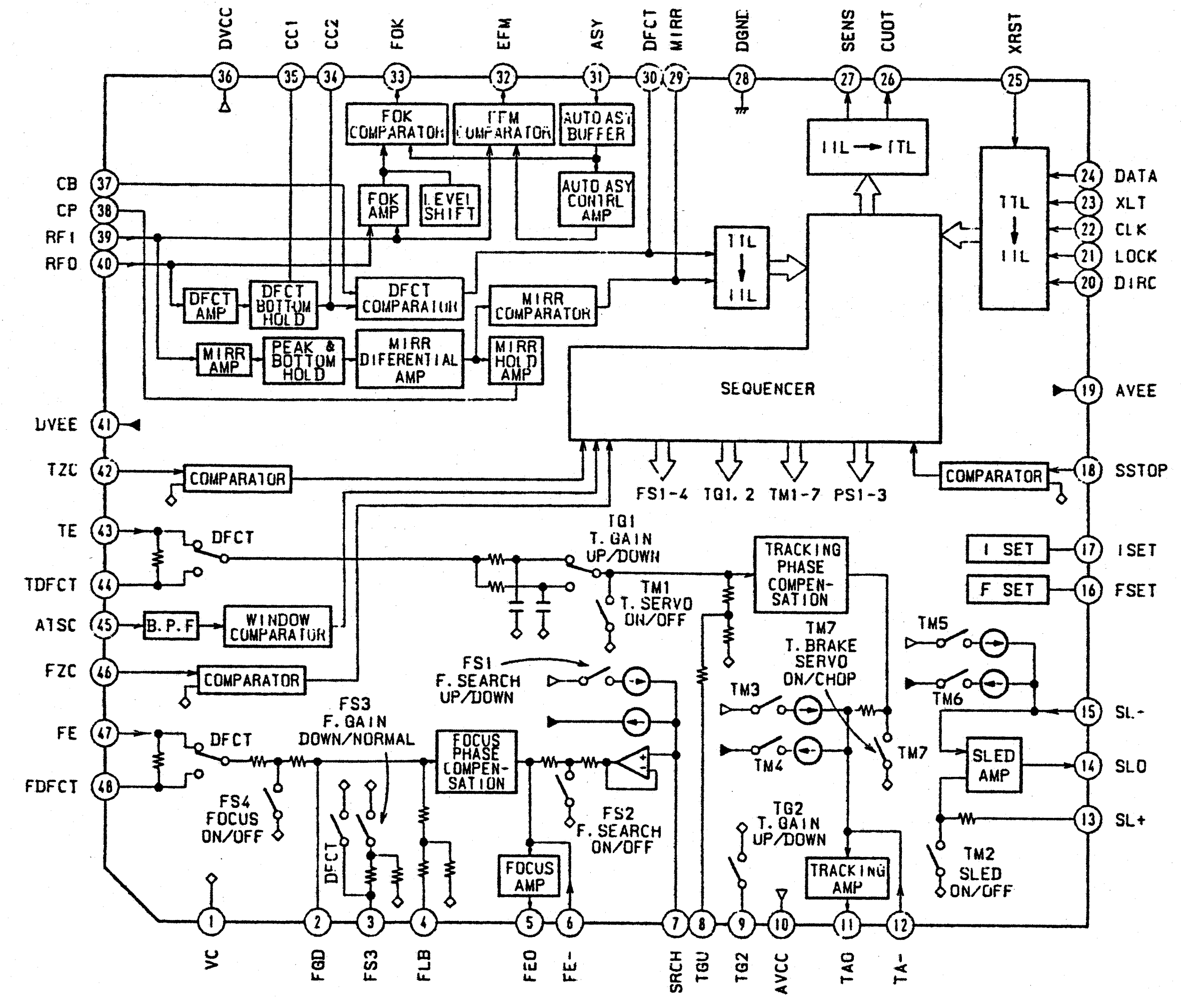
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$ W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

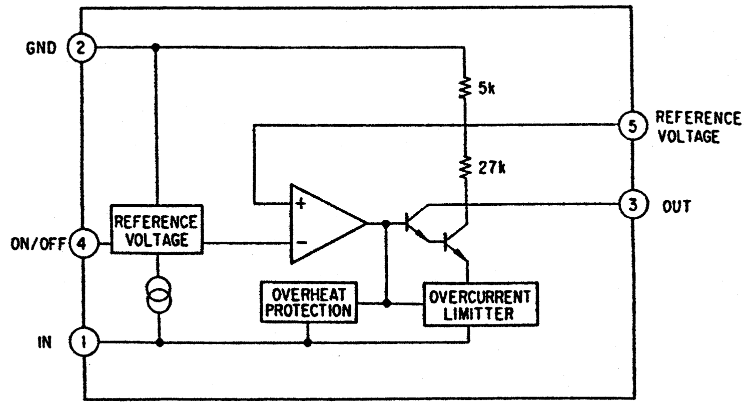
- ━━ : B+ Line
- ━ ━ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

## • IC Block Diagrams

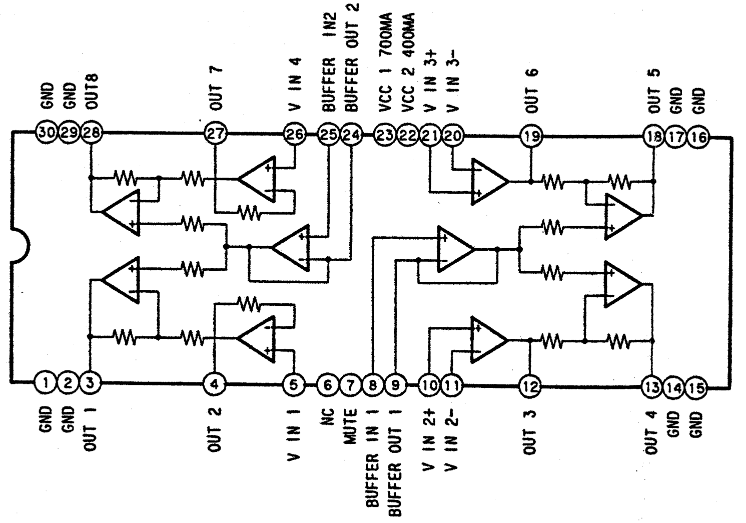
### IC101 CXA1372Q (BD Board)


DVCC 36
CC1 35
CC2 34
FOK 33
EFM 32
ASY 31
DFCT 30
MIRR 29
DGND 28
SENS 27
CUOT 26
XRST 25
FOK COMPARATOR
EFM COMPARATOR
AUTO ASY BUFFER
FOK AMP
LEVEL SHIFT
AUTO ASY CONTRL AMP
IIL → ITL
TTL ↓ IIL
IIL ↓ TTL
24 DATA
23 XLT
22 CLK
21 LOCK
20 DIRC
CB 37
CP 38
RFI 39
RFO 40
DFCT AMP
DFCT BOTTOM HOLD
DFCT COMPARATOR
MIRR COMPARATOR
MIRR AMP
PEAK & BOTTOM HOLD
MIRR DIFERENTIAL AMP
MIRR HOLD AMP
SEQUENCER
19 AVEE
DVEE 41
TZC 42
COMPARATOR
FS1-4
TG1, 2
TM1-7
PS1-3
COMPARATOR
18 SSTOP
TE 43
DFCT
TG1 T. GAIN UP/DOWN
TRACKING PHASE COMPENSATION
I SET
17 ISET
F SET
16 FSET
TDFCT 44
TM1 T. SERVO ON/OFF
ATSC 45
B.P.F
WINDOW COMPARATOR
TM7 T. BRAKE SERVO ON/CHOP
TM5
FS1 F. SEARCH UP/DOWN
FZC 46
COMPARATOR
FS3 F. GAIN DOWN/NORMAL
TM3
TM6
15 SL-
FE 47
DFCT
FOCUS PHASE COMPENSATION
TM4
TM7
SLED AMP
14 SLO
FDFCT 48
FS4 FOCUS ON/OFF
DFCT
FS2 F. SEARCH ON/OFF
TG2 T. GAIN UP/DOWN
13 SL+
FOCUS AMP
TRACKING AMP
TM2 SLED ON/OFF
1 VC
2 FGD
3 FS3
4 FLB
5 FEO
6 FE-
7 SRCH
8 TGU
9 TG2
10 AVCC
11 TAO
12 TA-

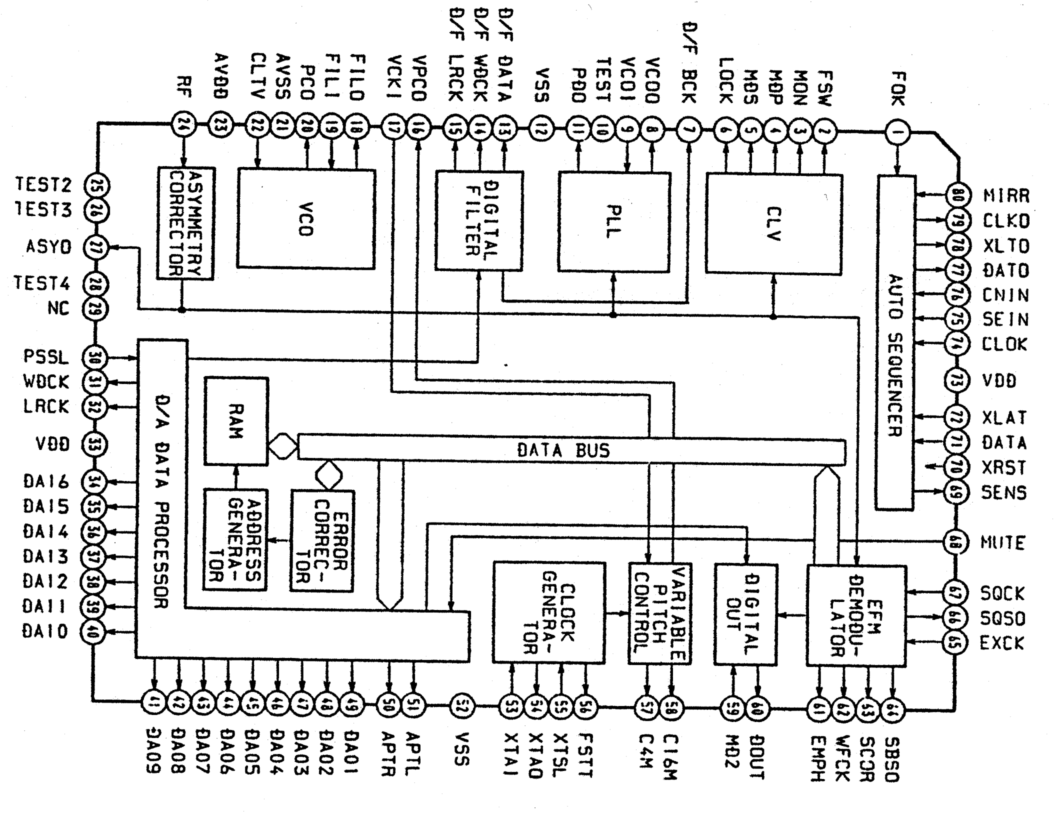
### IC102 M5293L (Power Board)


GND 2
5k
27k
5 REFERENCE VOLTAGE
3 OUT
ON/OFF 4
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER
IN 1

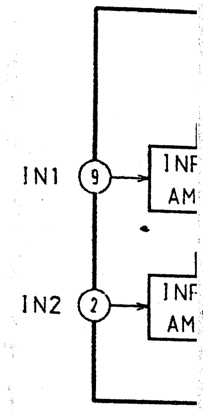
### IC102 LA6532M (BD Board)


GND 30
GND 29
OUT8 28
OUT 7 27
V IN 4 26
BUFFER OUT 2 25
IN2 BUFFER 24
VCC 1 700MA 23
VCC 2 400MA 22
V IN 3+ 21
V IN 3- 20
OUT 6 19
OUT 5 18
GND 17
GND 16
1 GND
2 GND
3 OUT 1
4 OUT 2
5 V IN 1
6 NC
7 MUTE
8 BUFFER IN 1
9 BUFFER OUT 1
10 V IN 2+
11 V IN 2-
12 OUT 3
13 OUT 4
14 GND
15 GND

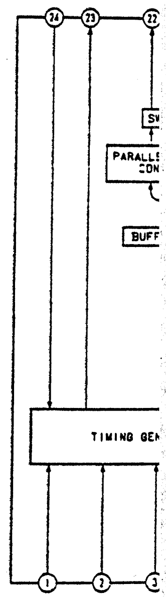
### IC202 CXD2500AQ


RF 24
AVDD 23
CLTV 22
AVSS 21
PCO 20
FILI 19
FILO 18
VPCO 17
VCKI 16
D/F LRCK 15
D/F WDCK 14
D/F DATA 13
VSS 12
PDO 11
TEST 10
VCOI 9
VCOO 8
D/F BCK 7
LOCK 6
MDS 5
MDP 4
MON 3
FSW 2
FOK 1
TEST2 25 26
TEST3
ASYO 27
TEST4 28
NC 29
ASYMMETRY CORRECTOR
VCO
DIGITAL FILTER
PLL
CLV
AUTO SEQUENCER
80 MIRR
79 CLKO
78 XLTO
77 DATO
76 CNIN
75 SEIN
74 CLOK
73 VDD
72 XLAT
71 DATA
70 XRST
69 SENS
68 MUTE
67 SQCK
66 SQSO
65 EXCK
PSSL 30
WDCK 31
LRCK 32
VDD 33
DA16 34
DA15 35
DA14 36
DA13 37
DA12 38
DA11 39
DA10 40
D/A DATA PROCESSOR
RAM
DATA BUS
ADDRESS GENERATOR
ERROR CORRECTOR
CLOCK GENERATOR
VARIABLE PITCH CONTROL
DIGITAL OUT
EFM DEMODULATOR
41 DA09
42 DA08
43 DA07
44 DA06
45 DA05
46 DA04
47 DA03
48 DA02
49 DA01
50 APTR
51 APTL
52 VSS
53 XTAI
54 XTAO
55 XTSL
56 FSTT
57 C4M
58 C16M
59 MD2
60 DOUT
61 EMPH
62 WFCK
63 SCOR
64 SBSO

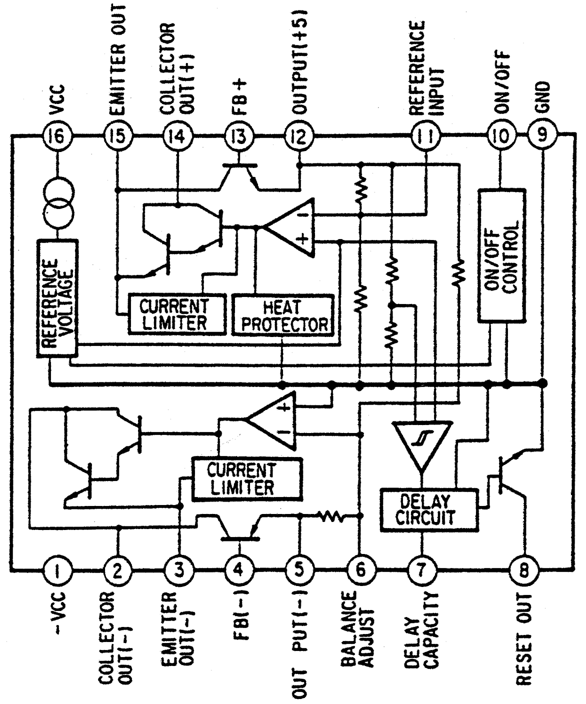
### IC203 M5464

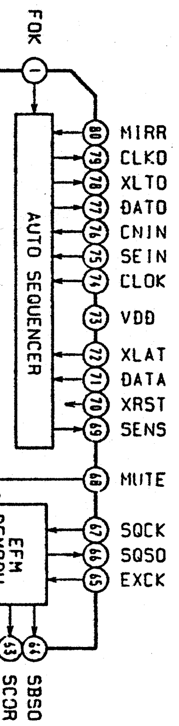

IN1 9
INF AM
IN2 2
INF AM

### IC204 CXD255

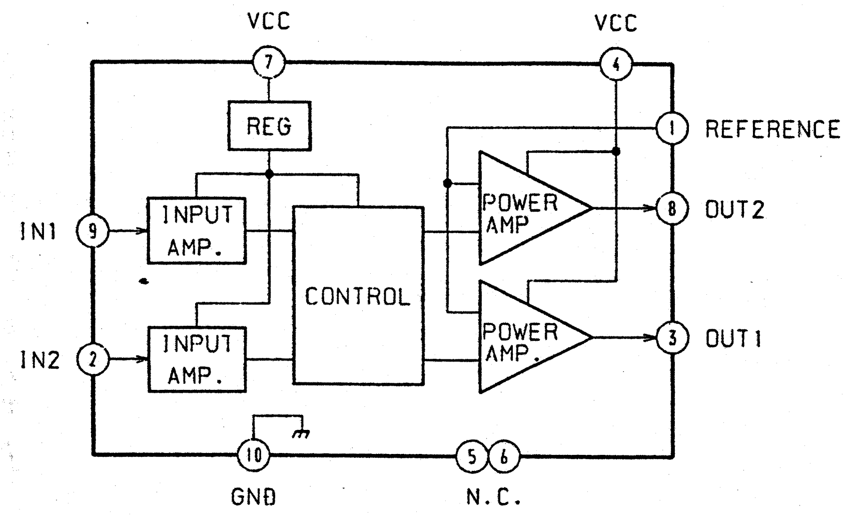

24
23
22
PARALLEL CON
BUFF
TIMING GEN
1
2
3

### IC103 M5290FP

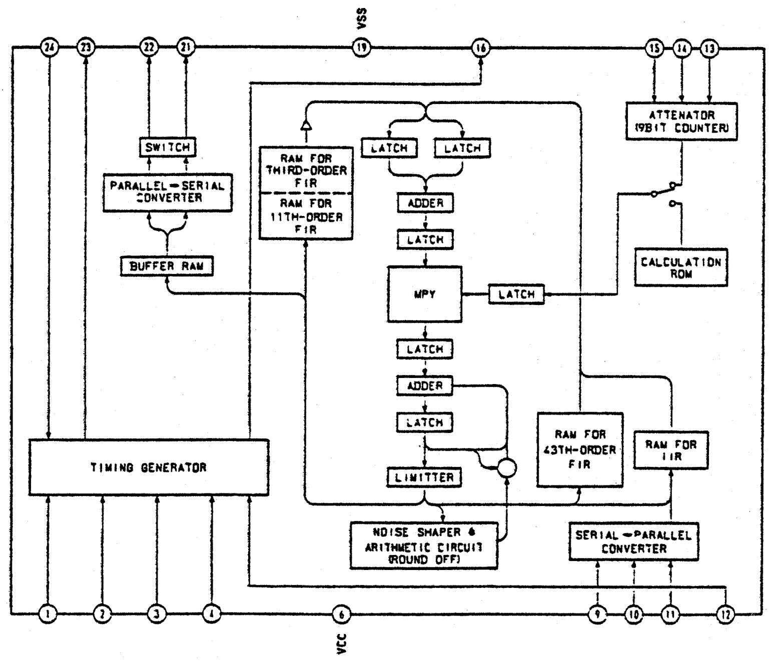

VCC 16
EMITTER OUT(+) 15
COLLECTOR OUT(+) 14
FB+ 13
OUTPUT(+5) 12
REFERENCE INPUT 11
ON/OFF 10
GND 9
REFERENCE VOLTAGE
CURRENT LIMITER
HEAT PROTECTOR
ON/OFF CONTROL
CURRENT LIMITER
DELAY CIRCUIT
1 -VCC
2 COLLECTOR OUT(-)
3 EMITTER OUT(-)
4 FB(-)
5 OUT PUT(-5)
6 BALANCE ADJUST
7 DELAY CAPACITY
8 RESET OUT


FOK
①
AUTO SEQUENCER
80 MIRR
79 CLKO
78 XLTO
77 DATO
76 CNIN
75 SEIN
74 CLOK
73 VDD
72 XLAT
71 DATA
70 XRST
69 SENS
68 MUTE
EFM
67 SQCK
66 SQSO
65 EXCK
63 SCOR
64 SBSO

## IC203 M54641FP

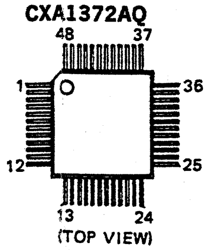

VCC
VCC
⑦
④
REG
① REFERENCE
IN1 ⑨
INPUT AMP.
CONTROL
POWER AMP
⑧ OUT2
IN2 ②
INPUT AMP.
POWER AMP
③ OUT1
⑩
GND
⑤ ⑥
N.C.

## IC204 CXD2554M


VSS
24
23
22
21
19
16
15
14
13
SWITCH
PARALLEL→SERIAL CONVERTER
BUFFER RAM
RAM FOR THIRD-ORDER FIR
RAM FOR 11TH-ORDER FIR
LATCH
LATCH
ADDER
LATCH
MPY
LATCH
LATCH
ADDER
LATCH
LIMITTER
ATTENATOR (9BIT COUNTER)
CALCULATION ROM
RAM FOR 43TH-ORDER FIR
RAM FOR IIR
TIMING GENERATOR
NOISE SHAPER & ARITHMETIC CIRCUIT (ROUND OFF)
SERIAL→PARALLEL CONVERTER
1
2
3
4
6
9
10
11
12
VCC

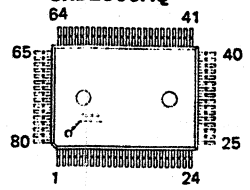
## 4-5. SEMICONDUCTOR LEAD LAYOUTS

**CXA1372AQ**


48
37
1
36
12
25
13
24

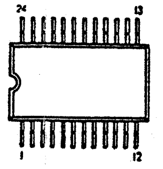
(TOP VIEW)

**CXD2500AQ**


64
41
65
40
80
25
1
24

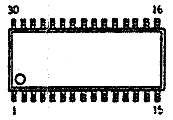
MARKING SIDE VIEW

**CXD2554M**



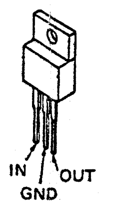
(TOP VIEW)

**LA6532M**

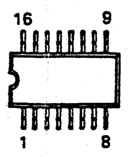


(TOP VIEW)

**M5F7807**

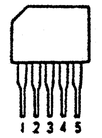


**M5290FP**

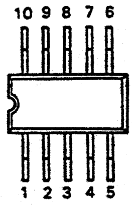


(TOP VIEW)

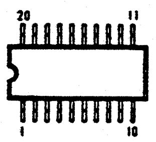
**M5293L**



**M54641FP**

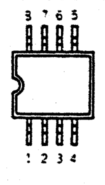

10 9 8 7 6
1 2 3 4 5

**PCM67U**



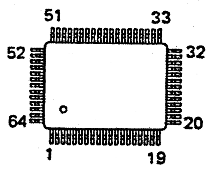
(TOP VIEW)

**RC4558PS**



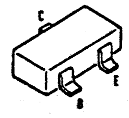
(TOPVIEW)

**µPD75116GF**
**-F21-3BE**
**µPD75206GF**
**-716-3BE**

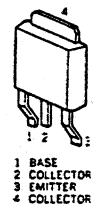

51
33
52
32
64
20
1
19

(TOP VIEW)

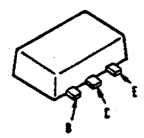
**DTC144EK**
**2SC3052-EF**



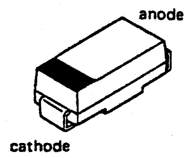
**2SA1341**


4
1 2 3
1 BASE
2 COLLECTOR
3 EMITTER
4 COLLECTOR

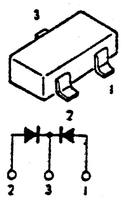
**2SB1122-S**



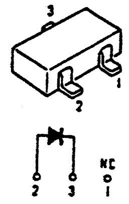
**EC10DS2**
**EC10QS-04**


anode
cathode

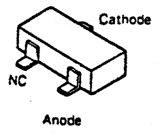
**MA152WK**



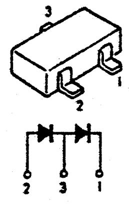
**UZM3.9Z**
**UZM6.8Y**



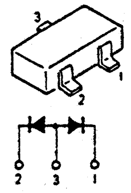
**UZM8.2Z**


Cathode
NC
Anode

**1SS226**



**1S2836**



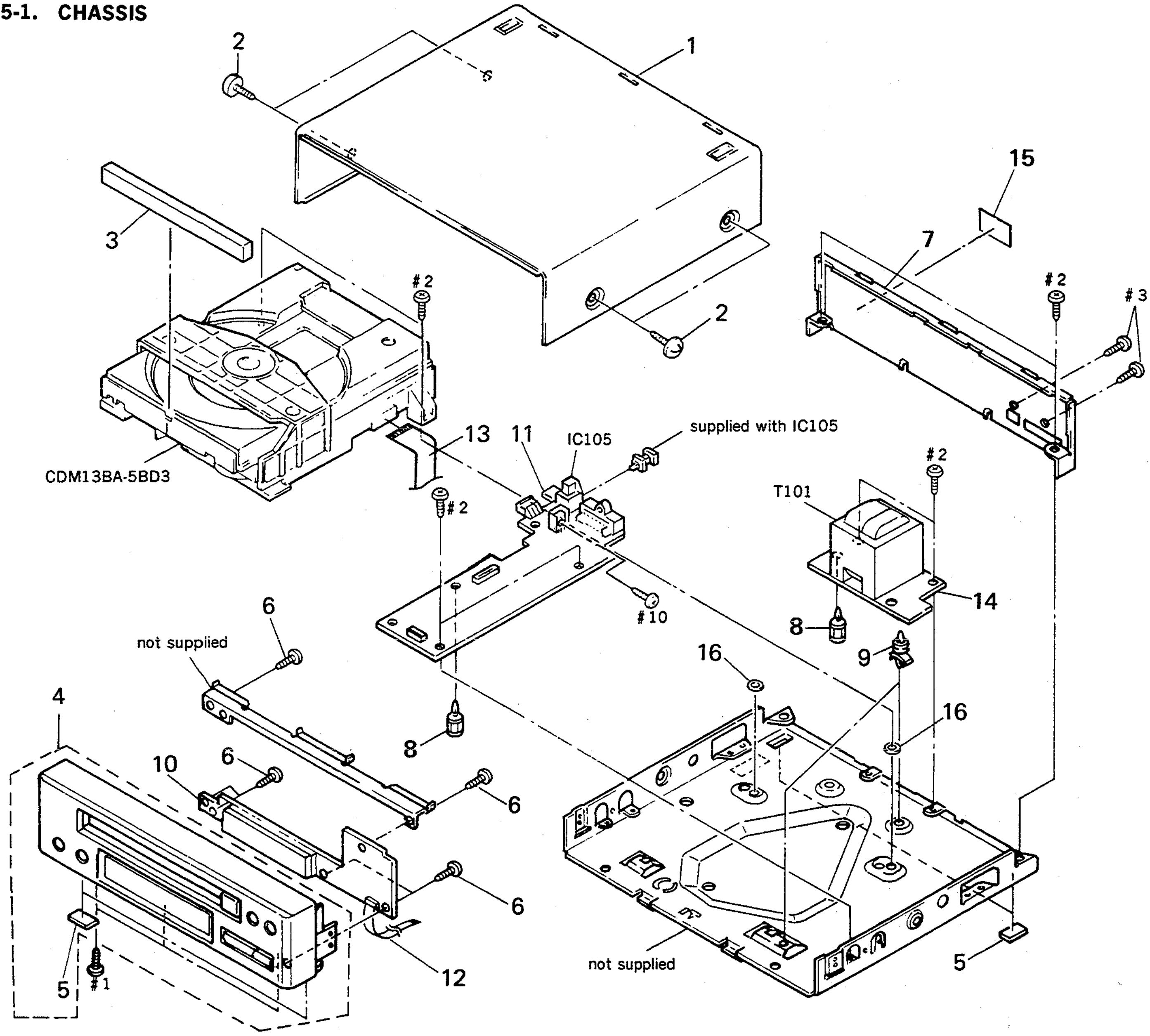
# SECTION 5
# EXPLODED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

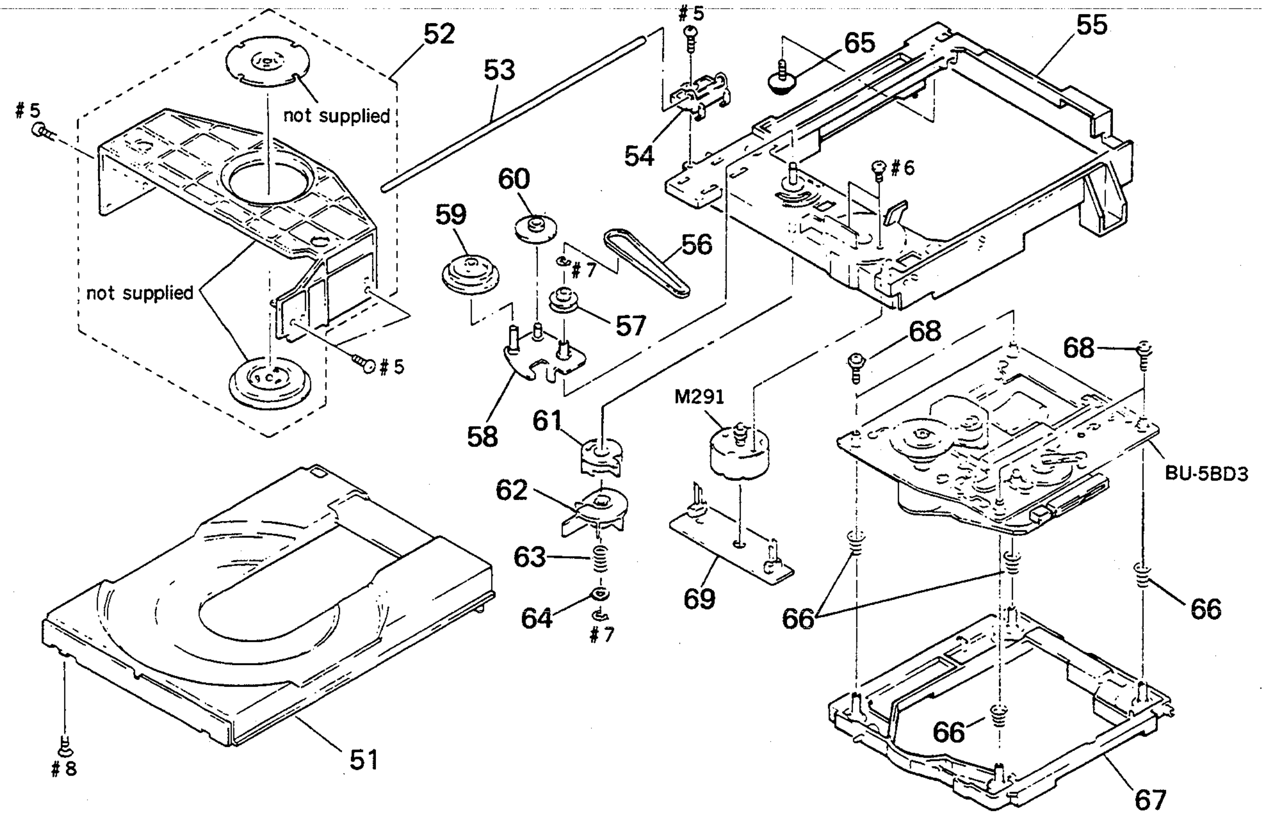
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 5-1. CHASSIS



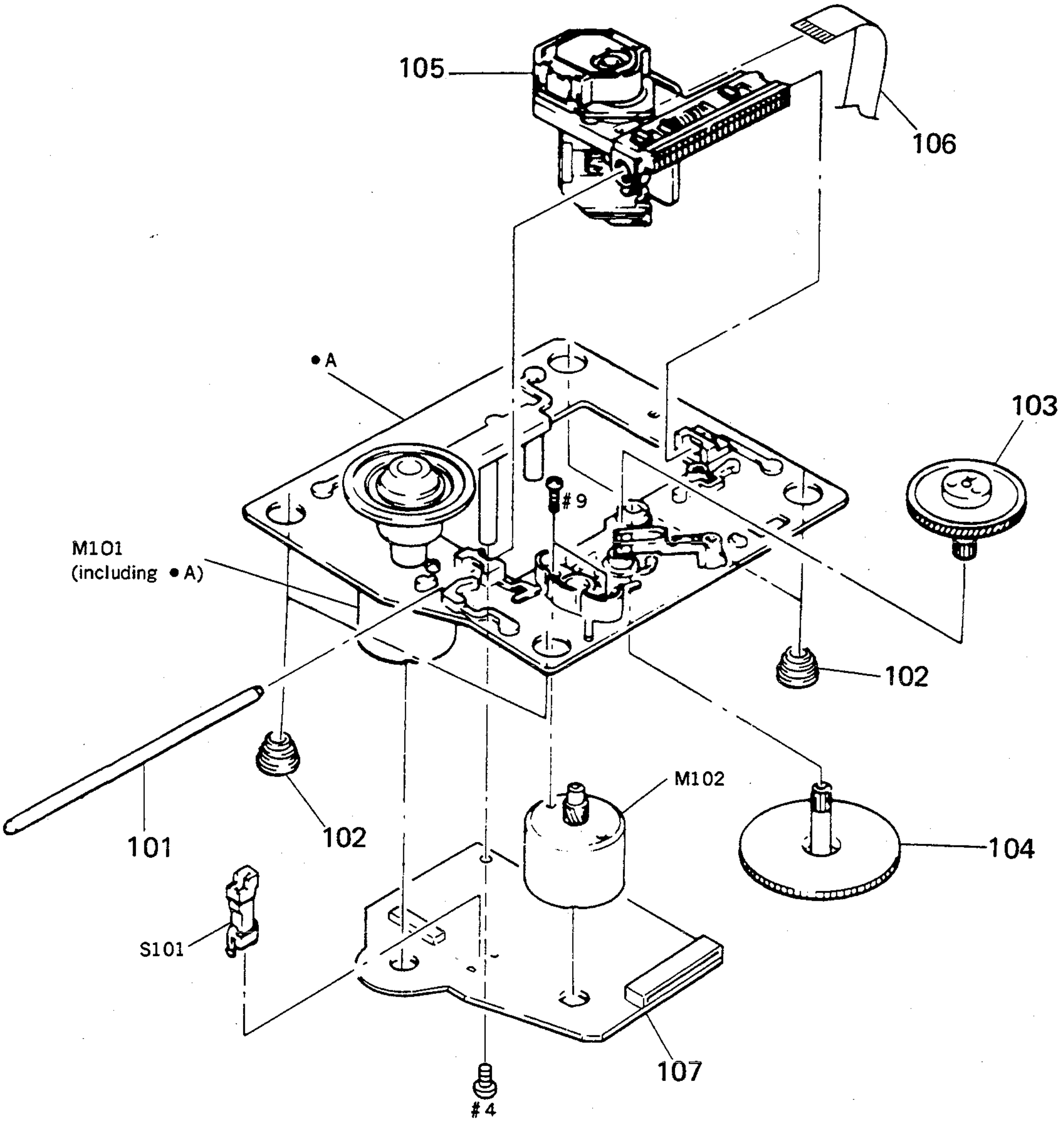
| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 1 | 4-944-423-31 | CASE (K206522) | |
| 2 | 3-363-099-01 | SCREW (CASE +3X8 TP2) | |
| 3 | 4-948-777-01 | PANEL, LOADING | |
| 4 | X-4942-117-1 | PANEL ASSY, FRONT | |
| 5 | 4-930-336-21 | FOOT (FELT) | |
| 6 | 4-951-620-01 | SCREW (2.6X8), +BVTP | |
| * 7 | 4-948-753-11 | PANEL (CDP), BACK | |
| * 8 | 3-669-610-00 | SPACER | |
| * 9 | 4-924-098-11 | HOLDER, PC BOARD | |
| * 10 | A-4649-273-A | DISPLAY BOARD, COMPLETE | |
| * 11 | A-4649-275-A | MOUNTED PCB, MAIN | |
| 12 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| 13 | 1-690-753-11 | WIRE (FLAT TYPE) (22 CORE) | |
| * 14 | 1-642-542-11 | POWER BOARD | |
| * 15 | 4-941-548-01 | LABEL, CLASS 1 | |
| 16 | 3-555-872-00 | SPACER | |
| IC105 | 8-749-923-04 | IC TOTX178 | |
| ⚠T101 | 1-450-704-11 | TRANSFORMER, POWER | |

## 5-2. CD BLOCK (CDM13BA-5BD3)


52
53
#5
54
65
55
#5
not supplied
not supplied
60
59
56
#7
57
#6
#5
58
61
M291
68
68
BU-5BD3
62
63
64
#7
69
66
66
66
67
51
#8

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|---|---|---|---|---|---|---|---|
| 51 | 4-944-012-01 | TABLE, DISC | | 61 | 4-929-727-01 | CAM (A) | |
| 52 | A-4604-752-A | HOLDER (MG) ASSY | | 62 | 4-929-729-01 | CAM (B) | |
| 53 | 4-929-764-01 | SHAFT (TABLE GUIDE) | | 63 | 3-659-338-00 | SPRING, COMPRESSION | |
| 54 | 4-944-006-01 | BEARING | | 64 | 4-927-654-01 | WASHER (LIMITER) | |
| 55 | X-4941-462-1 | CHASSIS (MD) ASSY | | * 65 | 4-917-583-21 | BRACKET, YOKE | |
| 56 | 4-927-649-01 | BELT | | 66 | 4-917-541-01 | SPRING (B) | |
| 57 | 4-929-724-01 | PULLEY (B) | | 67 | 4-929-747-01 | HOLDER (BU) | |
| 58 | X-4929-703-1 | ARM ASSY, SWING | | 68 | 4-933-134-01 | SCREW (+PTPWH M2.6X6) | |
| 59 | 4-927-620-01 | GEAR (P) | | * 69 | 1-634-461-11 | LOARDING BOARD | |
| 60 | 4-927-628-01 | GEAR (C) | | M291 | A-4608-362-A | MOTOR (L) ASSY | |

## 5-3. OPTICAL PICK-UP BLOCK (BU-5BD3)


105
106
• A
103
#9
M101
(including • A)
102
101
102
M102
104
S101
107
#4

**Note :** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | 4-917-565-01 | SHAFT, SLED | |
| 102 | 4-933-126-01 | INSULATOR (A) | |
| 103 | 4-917-567-01 | GEAR (M) | |
| 104 | 4-917-564-01 | GEAR (P), FLATNESS | |
| ⚠105 | 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 106 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| * 107 | A-4617-371-A | BD BOARD, COMPLETE | |
| M101 | X-4917-523-3 | MOTOR ASSY, SPINDLE | |
| M102 | X-4917-504-1 | MOTOR ASSY, SLED | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT IN) | |

**BD**

# SECTION 6
# ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  uF : μF
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- COILS
  uH : μH
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD....

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-4617-371-A | BD BOARD, COMPLETE<br>****************** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C102 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C103 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C104 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C105 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C106 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C107 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C109 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C110 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C111 | 1-131-367-00 | TANTALUM | 22uF | 10% | 20V |
| C112 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C113 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C114 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C115 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C117 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C118 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C119 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C120 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C151 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C152 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C153 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C154 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C155 | 1-163-023-00 | CERAMIC CHIP | 0.015uF | 5% | 50V |
| C171 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C172 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C173 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C174 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| | | < CONNECTOR > | | | |
| CN101 | 1-568-796-11 | SOCKET, CONNECTOR 22P | | | |
| CN102 | 1-568-795-11 | SOCKET, CONNECTOR 12P | | | |
| | | < IC > | | | |
| IC101 | 8-752-053-73 | IC CXA1372AQ | | | |
| IC102 | 8-759-822-36 | IC LA6532M | | | |
| | | < JUMPER RESISTOR > | | | |
| J101 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| J102 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-901-01 | TRANSISTOR DTC144EK | | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R102 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R103 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R104 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R105 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R106 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R107 | 1-216-114-00 | METAL GLAZE | 510K | 5% | 1/10W |
| R108 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R109 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R110 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R111 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R112 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R113 | 1-216-071-00 | METAL CHIP | 8.2K | 5% | 1/10W |
| R114 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R152 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R153 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R154 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R155 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R156 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R157 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R158 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R159 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R160 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R171 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R172 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R173 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R174 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < VARIABLE RESISTOR > | | | |
| RV101 | 1-238-016-11 | RES, ADJ, CARBON 10K | | | |
| RV102 | 1-238-016-11 | RES, ADJ, CARBON 10K | | | |
| | | < SWITCH > | | | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT IN) | | | |
| ********** | ********** | ****************** | ********** | ****** | ****** |
| * | A-4649-273-A | DISPLAY BOARD, COMPLETE<br>*********************** | | | |
| * | A-4649-275-A | MAIN BOARD, COMPLETE<br>******************** | | | |
| * | 1-642-542-11 | POWER BOARD<br>*********** | | | |
| * | 4-880-403-11 | HEAT SINK | | | |
| * | 4-932-810-11 | CUSHION (FL) | | | |
| | 7-682-548-04 | SCREW +BVTT 3X8 (S) | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-126-939-11 | ELECT | 10000uF | 20% | 16V |
| C102 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C103 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C104 | 1-135-155-21 | TANTALUM CHIP | 4.7uF | 10% | 16V |
| C105 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C106 | 1-164-695-11 | CERAMIC CHIP | 0.0022uF | 5% | 50V |
| C107 | 1-124-442-00 | ELECT | 330uF | 20% | 6.3V |
| C108 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C109 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C111 | 1-126-063-11 | ELECT | 100uF | 20% | 63V |
| C112 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C113 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C115 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C116 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C117 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C120 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C121 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C122 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C130 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C201 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C202 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C203 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C204 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF | 5% | 50V |
| C205 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C206 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C207 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C208 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C209 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C210 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C211 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C304 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C306 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C307 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C308 | 1-124-442-00 | ELECT | 330uF | 20% | 6.3V |
| C309 | 1-162-638-11 | CERAMIC CHIP | 1uF | | 16V |
| C310 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C311 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C312 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C313 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C314 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C315 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C316 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C317 | 1-163-139-00 | CERAMIC CHIP | 820PF | 5% | 50V |
| C318 | 1-163-139-00 | CERAMIC CHIP | 820PF | 5% | 50V |
| C319 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C320 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C321 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C322 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C323 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C324 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C330 | 1-124-442-00 | ELECT | 330uF | 20% | 10V |
| C341 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C401 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C402 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C403 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C404 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C500 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C501 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C502 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C503 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| | | < CONNECTOR > | | | |
| * CN101 | 1-569-624-11 | SOCKET, CONNECTOR 17P (SYSTEM CONTROL 2) | | | |
| CN102 | 1-568-662-11 | CONNECTOR, BOARD TO BOARD 6P | | | |
| * CN201 | 1-568-822-11 | SOCKET, CONNECTOR 22P | | | |
| * CN202 | 1-564-339-00 | PIN, CONNECTOR 5P | | | |
| * CN301 | 1-573-099-11 | HOUSING, CONNECTOR 12P | | | |
| * CN401 | 1-573-098-11 | HOUSING, CONNECTOR 12P | | | |
| CN901 | 1-568-668-11 | CONNECTOR, BOARD TO BOARD 6P | | | |
| | | < DIODE > | | | |
| D101 | 8-719-210-39 | DIODE EC10QS-04 | | | |
| D102 | 8-719-210-39 | DIODE EC10QS-04 | | | |
| D103 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D104 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D106 | 8-719-021-59 | DIODE UZM6.8Y | | | |
| D113 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D131 | 8-719-800-76 | DIODE 1SS226 | | | |
| D132 | 8-719-800-76 | DIODE 1SS226 | | | |

## DISPLAY MAIN POWER

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| D201 | 8-719-400-18 | DIODE MA152WK | | | | |
| D206 | 8-719-021-13 | DIODE UZM3.9Z | | | | |
| D401 | 8-719-021-77 | DIODE UZM8.2Z | | | | |
| D402 | 8-719-104-34 | DIODE 1S2836 | | | | |
| D403 | 8-719-400-18 | DIODE MA152WK | | | | |
| | | < INDICATOR > | | | | |
| FL401 | 1-519-652-11 | INDICATOR TUBE. FLUORESCENT | | | | |
| | | < IC > | | | | |
| IC101 | 8-759-604-86 | IC M5F7807 | | | | |
| IC102 | 8-759-633-42 | IC M5293L | | | | |
| IC103 | 8-759-636-24 | IC M5290FP | | | | |
| IC105 | 8-749-923-04 | IC TOTX178 | | | | |
| IC201 | 8-759-059-86 | IC uPD75116GF-F21-3BE | | | | |
| IC202 | 8-752-337-26 | IC CXD2500AQ | | | | |
| IC203 | 8-759-636-20 | IC M54641FP | | | | |
| IC204 | 8-752-337-10 | IC CXD2554M | | | | |
| IC301 | 8-759-506-63 | IC PCM67U | | | | |
| IC303 | 8-759-996-43 | IC RC4558PS | | | | |
| IC304 | 8-759-996-43 | IC RC4558PS | | | | |
| IC401 | 8-759-154-14 | IC uPD75206GF-716-3BE | | | | |
| | | < JUMPER RESISTOR > | | | | |
| JW101 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW110 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW401 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| | | < TRANSISTOR > | | | | |
| Q101 | 8-729-804-41 | TRANSISTOR 2SB1122-S | | | | |
| Q102 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | | | | |
| Q103 | 8-729-805-69 | TRANSISTOR 2SA1341 | | | | |
| Q201 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | | | | |
| | | < RESISTOR > | | | | |
| R101 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R104 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R105 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R107 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R108 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R199 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R201 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R202 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R203 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R204 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R205 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W | |
| R206 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R207 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R208 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R209 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R210 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R211 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R213 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R214 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R215 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R216 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R217 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R218 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R219 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R220 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R221 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R222 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R223 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R224 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R225 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R226 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R227 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R228 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R231 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R232 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R307 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W | |
| R308 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W | |
| R309 | 1-216-106-00 | METAL CHIP | 240K | 5% | 1/10W | |
| R310 | 1-216-106-00 | METAL CHIP | 240K | 5% | 1/10W | |
| R313 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W | |
| R314 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W | |
| R315 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W | |
| R316 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W | |
| R319 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R322 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R323 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R324 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| ⚠R330 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W | F |
| R331 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W | |
| R332 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W | |
| R401 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R402 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R403 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R404 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R405 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R406 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R407 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R408 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W | |
| R409 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R410 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R411 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R412 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R413 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |

**Note :** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R414 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R501 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R502 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R504 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R505 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R506 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| | | < SWITCH > | |
| S401 | 1-554-303-21 | SWITCH, TACTILE (◀◀ ⏮) | |
| S402 | 1-554-303-21 | SWITCH, TACTILE (▶▶ ⏭) | |
| S403 | 1-554-303-21 | SWITCH, TACTILE (▷ ▮▮) | |
| S404 | 1-554-303-21 | SWITCH, TACTILE (■) | |
| S405 | 1-554-303-21 | SWITCH, TACTILE (OPEN/CLOSE ⏏) | |
| S406 | 1-554-303-21 | SWITCH, TACTILE (EDIT/TIME FADE) | |
| S407 | 1-554-303-21 | SWITCH, TACTILE (CHECK) | |
| | | < TRANSFORMER > | |
| ⚠T101 | 1-450-704-11 | TRANSFORMER, POWER | |
| | | < VIBRATOR > | |
| X201 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) | |
| X301 | 1-567-908-11 | VIBRATOR, CRYSTAL (16.9MHz) | |
| X401 | 1-579-063-21 | VIBRATOR, CERAMIC (4.19MHz) | |

************************************************************

| | | | |
|---|---|---|---|
| * | 1-634-461-11 | LOADING BOARD<br>************* | |
| | | < CONNECTOR > | |
| * CN291 | 1-564-498-11 | PIN, CONNECTOR 5P | |
| | | < SWITCH > | |
| S291 | 1-571-924-11 | SWITCH, LEAF (LOAD OUT) | |
| S292 | 1-571-924-11 | SWITCH, LEAF (LOAD IN) | |

************************************************************

| | | | |
|---|---|---|---|
| | | MISCELLANEOUS<br>************* | |
| 12 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| 13 | 1-690-753-11 | WIRE (FLAT TYPE) (22 CORE) | |
| ⚠105 | 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 106 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| M101 | X-4917-523-3 | MOTOR ASSY, SPINDLE | |
| M102 | X-4917-504-1 | MOTOR ASSY, SLED | |
| M291 | A-4608-362-A | MOTOR (L) ASSY | |

************************************************************

## HARDWARE LIST

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| #1 | 7-682-547-09 | SCREW +BVTT 3X6 (S) | |
| #2 | 7-682-547-04 | SCREW +BVTT 3X6 (S) | |
| #3 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S | |
| #4 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S | |
| #5 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | |
| #6 | 7-621-775-10 | SCREW +B 2.6X4 | |
| #7 | 7-624-105-04 | STOP RING 2.3, TYPE -E | |
| #8 | 7-685-234-19 | SCREW +KTP 2.6X8 TYPE2NON-SLIT | |
| #9 | 7-621-255-15 | SCREW +P 2X3 | |
| #10 | 7-682-548-04 | SCREW +BVTT 3X8 (S) | |

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

# CDP-H3700

**SONY**

**SERVICE MANUAL**

*AEP Model*
*UK Model*
*E Model*
*Australian Model*
*Tourist Model*

# SUPPLEMENT-1

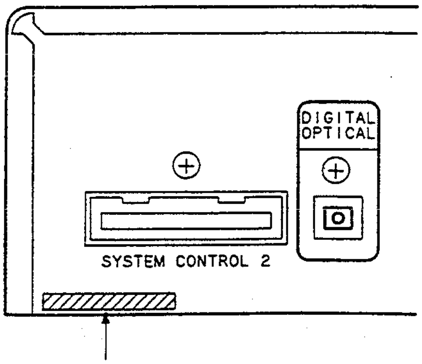
File this supplement with the Service Manual.

**Germany model has been added**

- The Germany model has been designed based on the CDP-H3700. There for see the CDP-H3700 service manual for the information not contained in this supplement-1.

## MODEL IDENTIFICATION

—BACK PANEL—



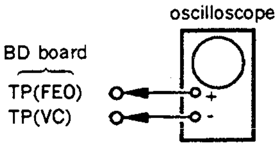
4-948-753-21 (AE4): Germany model

## ELECTRICAL BLOCK CHECKING

**Note:**

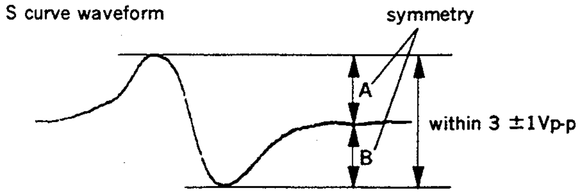
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

### S Curve Check


oscilloscope
BD board
TP(FEO)
TP(VC)
+
-

**Procedure:**

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

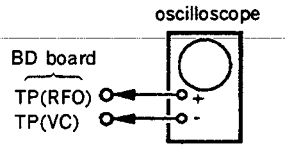

S curve waveform
symmetry
A
B
within 3 ±1Vp-p

5. After check, remove the lead wire connected in step 2.

**Note:** • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

### RF Level Check

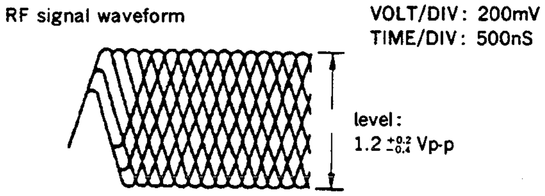

oscilloscope
BD board
TP(RFO)
TP(VC)
+
-

**Procedure:**

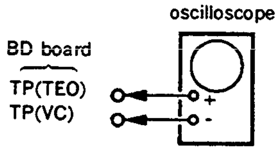
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note:**

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

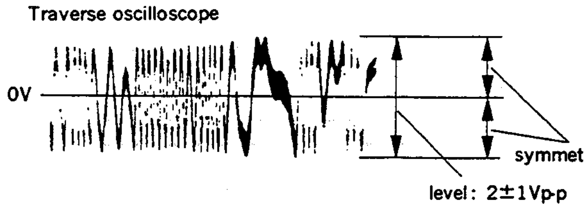

RF signal waveform
VOLT/DIV: 200mV
TIME/DIV: 500nS
level:
1.2 +0.2 -0.4 Vp-p

### E-F Balance Check


oscilloscope
BD board
TP(TEO)
TP(VC)
+
-

**Procedure:**

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

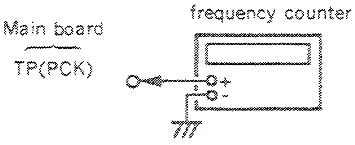

Traverse oscilloscope
0V
symmetry
level: 2±1Vp-p

6. Remove the lead wire connected in step 1.

### RF PLL Free-run Frequency Check

**Procedure :**

1. Connect frequency counter to test point (PCK) with lead wire.


frequency counter
Main board
TP(PCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

### Focus/Tracking Gain

This gain has a margin, so even if it is slightly off.

There is no problem.

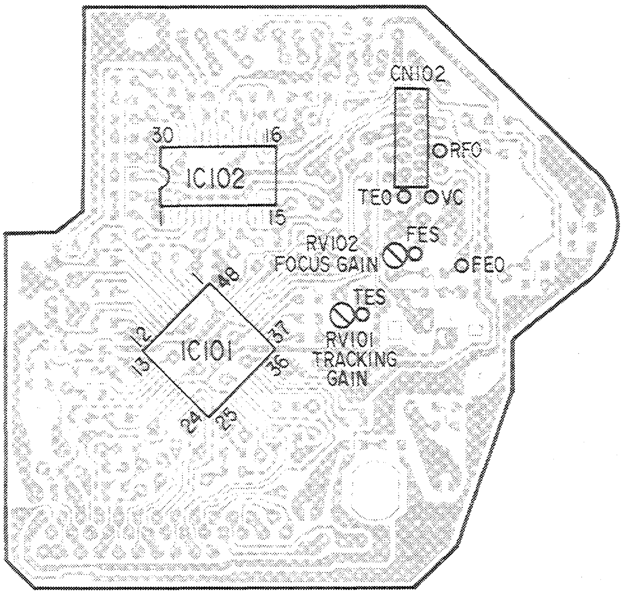
Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

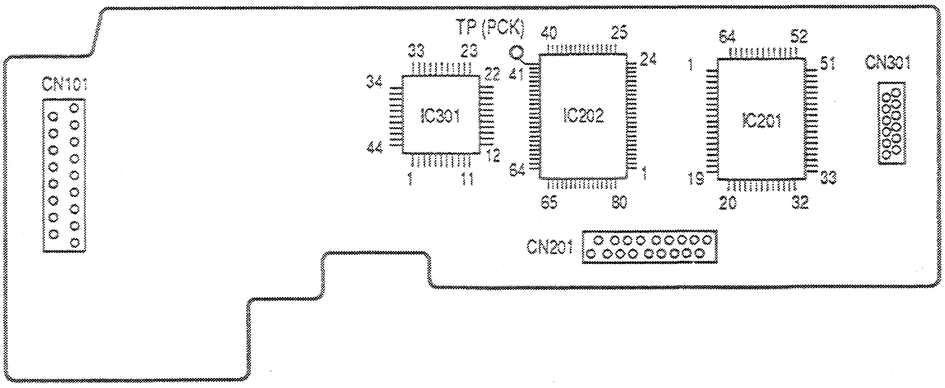
**Checking Location :**

【BD Board】

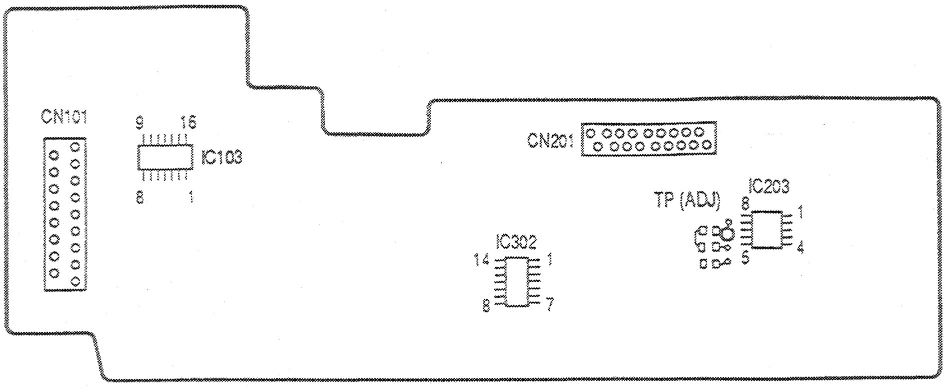
—Conductor Side—


CN102
RFO
30
16
IC102
1
15
TEO
VC
RV102
FOCUS GAIN
FES
FEO
1
48
12
13
IC101
37
36
24
25
TES
RV101
TRACKING
GAIN

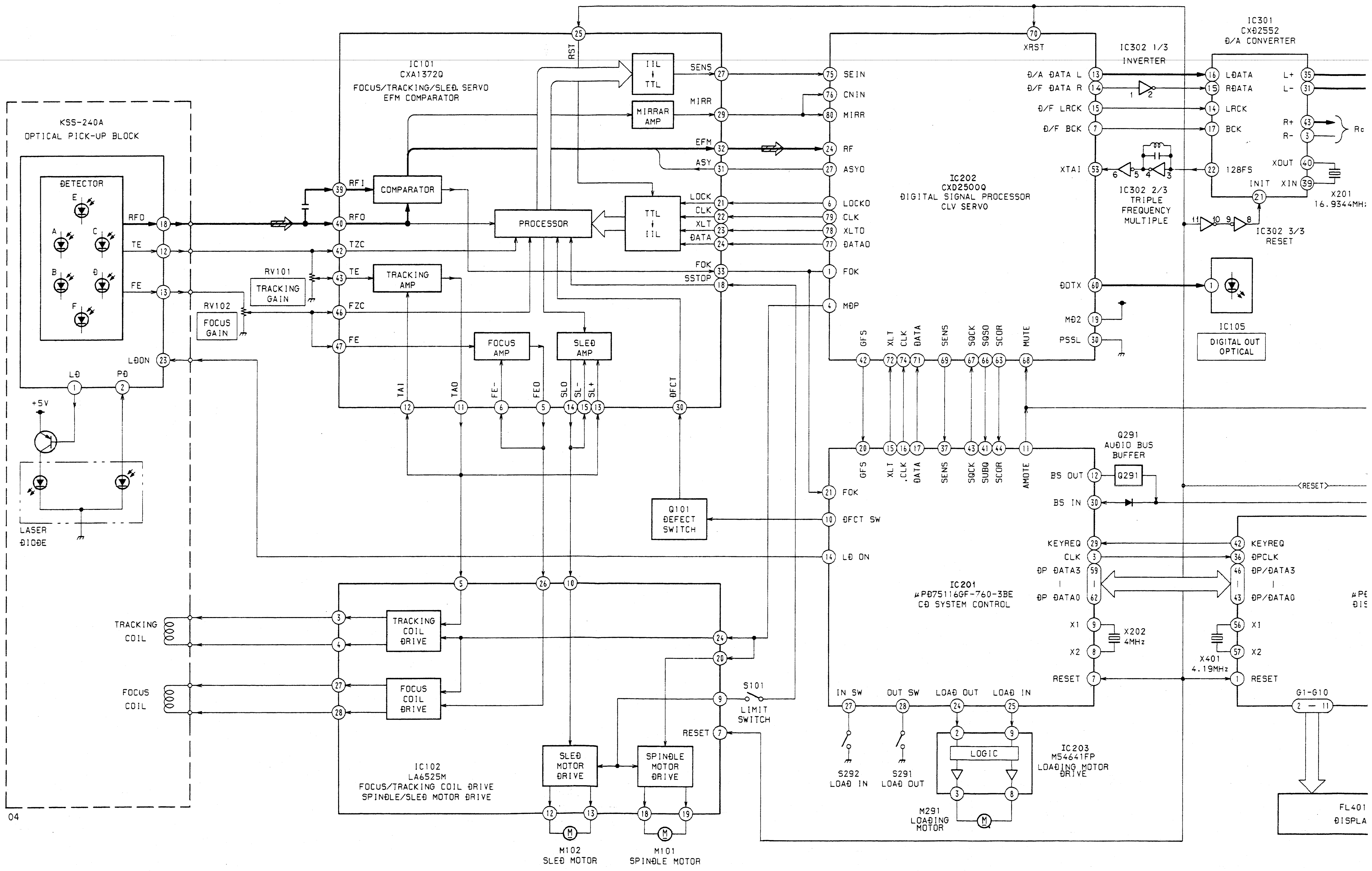
【MAIN Board】 —Component Side—

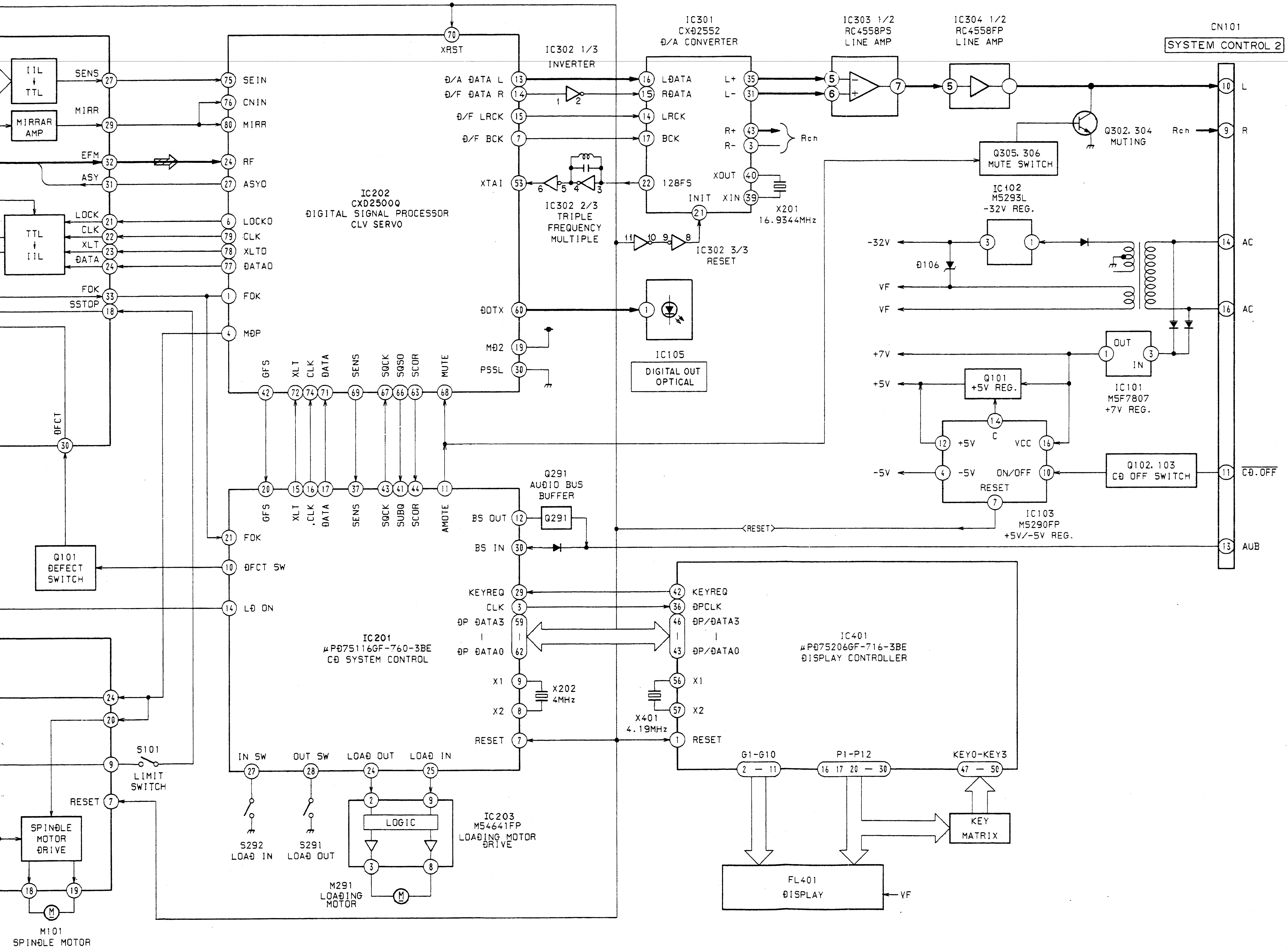

TP (PCK)
CN101
33
23
34
22
IC301
44
12
1
11
40
25
41
24
IC202
64
1
65
80
64
52
1
51
IC201
19
33
20
32
CN301
CN201

【MAIN Board】 —Conductor Side—

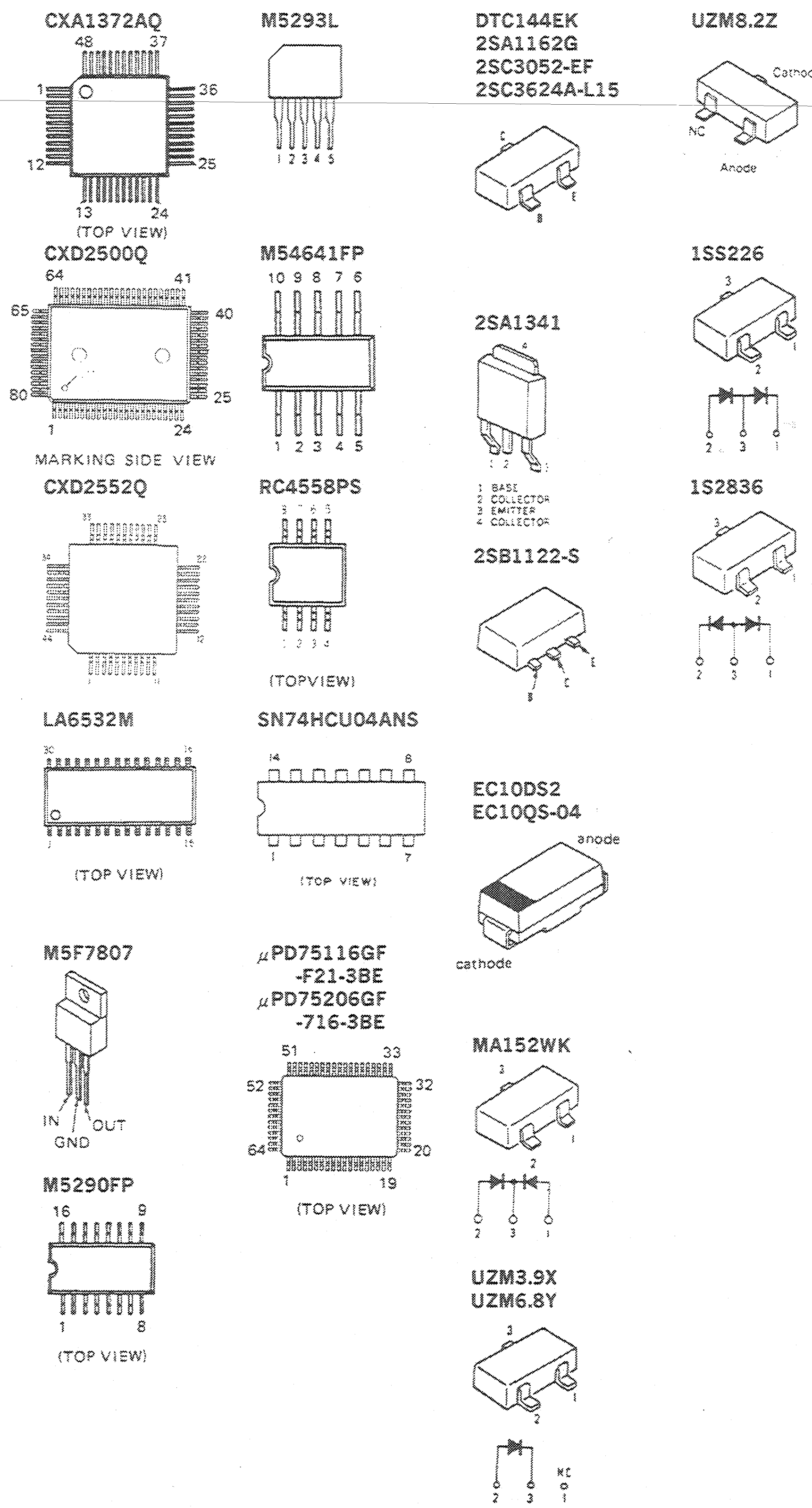

CN101
9
16
IC103
8
1
CN201
TP (ADJ)
IC203
8
1
5
4
IC302
14
1
8
7

## BLOCK DIAGRAM


KSS-240A
OPTICAL PICK-UP BLOCK
DETECTOR
E
A
C
B
D
F
RFO
TE
FE
LDON
LD
PD
+5V
LASER DIODE
04
IC101
CXA1372Q
FOCUS/TRACKING/SLED SERVO
EFM COMPARATOR
RST
RFI
COMPARATOR
RFO
TZC
TE
TRACKING AMP
FZC
FE
RV101
TRACKING GAIN
RV102
FOCUS GAIN
PROCESSOR
IIL → TTL
TTL → IIL
MIRRAR AMP
SENS
MIRR
EFM
ASY
LOCK
CLK
XLT
DATA
FOK
SSTOP
FOCUS AMP
SLED AMP
TAI
TAO
FE-
FEO
SLO
SL-
SL+
DFCT
Q101
DEFECT SWITCH
TRACKING COIL
FOCUS COIL
TRACKING COIL DRIVE
FOCUS COIL DRIVE
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
IC102
LA6525M
FOCUS/TRACKING COIL DRIVE
SPINDLE/SLED MOTOR DRIVE
RESET
S101
LIMIT SWITCH
M102
SLED MOTOR
M101
SPINDLE MOTOR
XRST
SEIN
CNIN
MIRR
RF
ASYO
LOCKO
CLK
XLTO
DATAO
FOK
MDP
IC202
CXD2500Q
DIGITAL SIGNAL PROCESSOR
CLV SERVO
D/A DATA L
D/F DATA R
D/F LRCK
D/F BCK
XTAI
DOTX
MD2
PSSL
GFS
XLT
CLK
DATA
SENS
SQCK
SQSO
SCOR
MUTE
IC302 1/3
INVERTER
IC302 2/3
TRIPLE FREQUENCY MULTIPLE
IC302 3/3
RESET
IC301
CXD2552
D/A CONVERTER
LDATA
RDATA
LRCK
BCK
128FS
INIT
XIN
XOUT
L+
L-
R+
R-
X201
16.9344MH
IC105
DIGITAL OUT OPTICAL
Q291
AUDIO BUS BUFFER
BS OUT
BS IN
<RESET>
GFS
XLT
.CLK
DATA
SENS
SQCK
SUBQ
SCOR
AMUTE
FOK
DFCT SW
LD ON
KEYREQ
CLK
DP DATA3
DP DATA0
IC201
μPD75116GF-760-3BE
CD SYSTEM CONTROL
X1
X2
X202
4MHz
RESET
KEYREQ
DPCLK
DP/DATA3
DP/DATA0
X401
4.19MHz
IN SW
OUT SW
LOAD OUT
LOAD IN
S292
LOAD IN
S291
LOAD OUT
LOGIC
IC203
M54641FP
LOADING MOTOR DRIVE
M291
LOADING MOTOR
G1-G10
2 — 11
FL401
DISPLA
μPD
DIS


IIL ↓ TTL
SENS
MIRRAR AMP
MIRR
EFM
ASY
TTL ↓ IIL
LOCK
CLK
XLT
DATA
FOK
SSTOP
DFCT
XRST
SEIN
CNIN
MIRR
RF
ASYO
LOCKO
CLK
XLTO
DATAO
FOK
MDP
IC202
CXD2500Q
DIGITAL SIGNAL PROCESSOR
CLV SERVO
D/A DATA L
D/F DATA R
D/F LRCK
D/F BCK
XTAI
DDTX
MD2
PSSL
GFS
XLT
CLK
DATA
SENS
SQCK
SQSO
SCOR
MUTE
IC302 1/3
INVERTER
IC302 2/3
TRIPLE
FREQUENCY
MULTIPLE
IC302 3/3
RESET
IC301
CXD2552
D/A CONVERTER
LDATA
RDATA
LRCK
BCK
128FS
L+
L-
R+
R-
Rch
XOUT
INIT XIN
X201
16.9344MHz
IC105
DIGITAL OUT
OPTICAL
IC303 1/2
RC4558PS
LINE AMP
IC304 1/2
RC4558FP
LINE AMP
CN101
SYSTEM CONTROL 2
L
R
Rch
AC
AC
CD.OFF
AUB
Q302, 304
MUTING
Q305, 306
MUTE SWITCH
IC102
M5293L
-32V REG.
-32V
D106
VF
VF
+7V
+5V
-5V
OUT
IN
IC101
M5F7807
+7V REG.
Q101
+5V REG.
+5V
C
VCC
-5V
ON/OFF
RESET
IC103
M5290FP
+5V/-5V REG.
Q102, 103
CD OFF SWITCH
<RESET>
Q291
AUDIO BUS
BUFFER
Q291
BS OUT
BS IN
GFS
XLT
,CLK
DATA
SENS
SQCK
SUBQ
SCOR
AMUTE
FOK
DFCT SW
LD ON
Q101
DEFECT
SWITCH
KEYREQ
CLK
DP DATA3
DP DATA0
IC201
μPD75116GF-760-3BE
CD SYSTEM CONTROL
X1
X2
X202
4MHz
RESET
IN SW
OUT SW
LOAD OUT
LOAD IN
KEYREQ
DPCLK
DP/DATA3
DP/DATA0
IC401
μPD75206GF-716-3BE
DISPLAY CONTROLLER
X1
X2
X401
4.19MHz
RESET
G1-G10
P1-P12
KEY0-KEY3
KEY
MATRIX
FL401
DISPLAY
VF
LOGIC
IC203
M54641FP
LOADING MOTOR
DRIVE
M291
LOADING
MOTOR
S292
LOAD IN
S291
LOAD OUT
S101
LIMIT
SWITCH
RESET
SPINDLE
MOTOR
DRIVE
M101
SPINDLE MOTOR

## SEMICONDUCTOR LEAD LAYOUTS


CXA1372AQ
48
37
1
36
12
25
13
24
(TOP VIEW)
M5293L
1 2 3 4 5
DTC144EK
2SA1162G
2SC3052-EF
2SC3624A-L15
C
B
E
UZM8.2Z
Cathode
NC
Anode
CXD2500Q
64
41
65
40
80
25
1
24
MARKING SIDE VIEW
M54641FP
10 9 8 7 6
1 2 3 4 5
2SA1341
1 BASE
2 COLLECTOR
3 EMITTER
4 COLLECTOR
1SS226
CXD2552Q
RC4558PS
(TOPVIEW)
2SB1122-S
B
C
E
1S2836
LA6532M
(TOP VIEW)
SN74HCU04ANS
14
8
1
7
(TOP VIEW)
EC10DS2
EC10QS-04
anode
cathode
M5F7807
IN
OUT
GND
μPD75116GF
-F21-3BE
μPD75206GF
-716-3BE
51
33
52
32
64
20
1
19
(TOP VIEW)
MA152WK
M5290FP
16
9
1
8
(TOP VIEW)
UZM3.9X
UZM6.8Y
NC

- Semiconductor Location

### EXCEPT BD BOARD

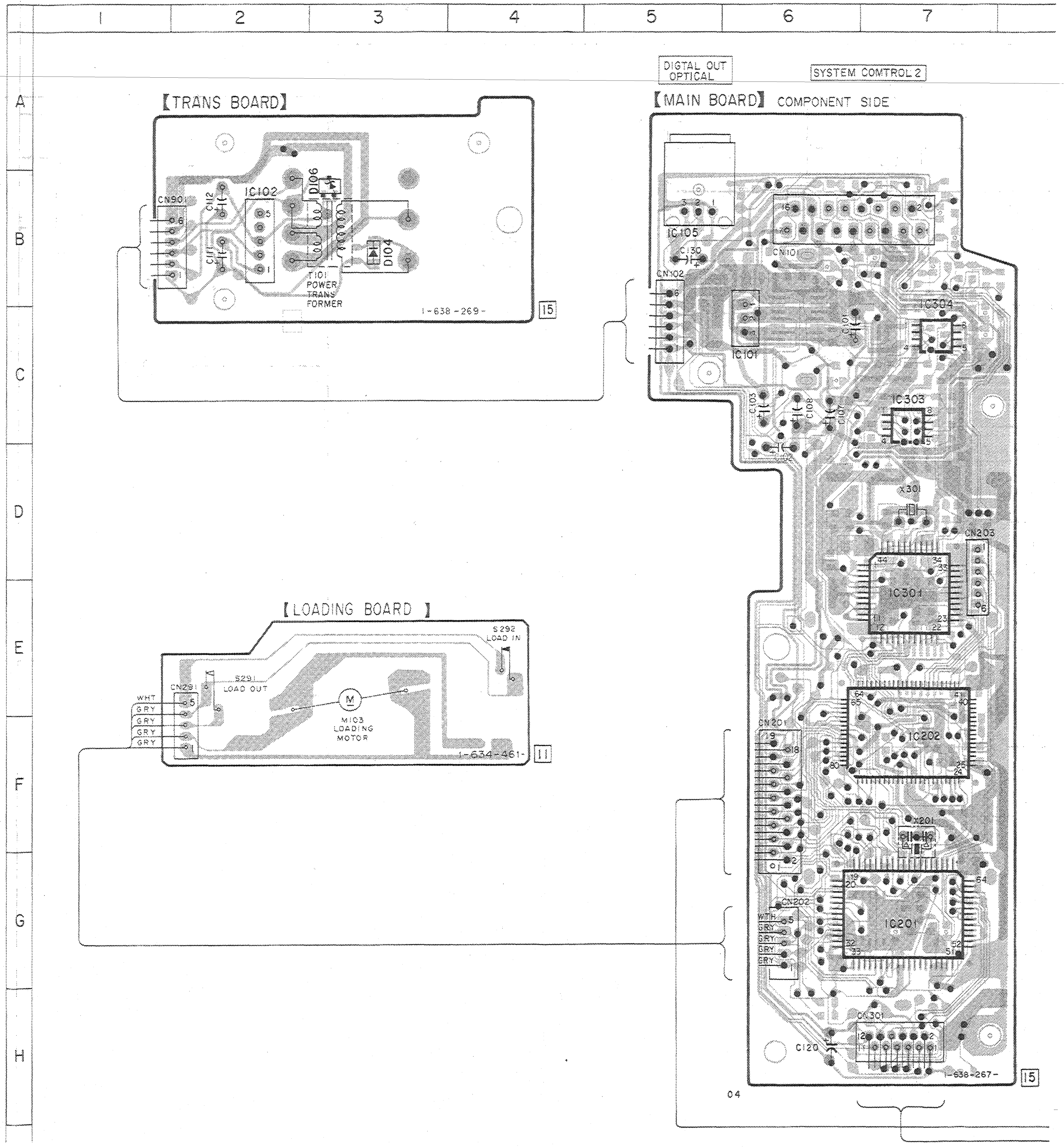
| Ref. No. | Location |
|---|---|
| D101 | B-10 |
| D102 | B-10 |
| D103 | C-11 |
| D113 | B-11 |
| D131 | B-10 |
| D132 | C-10 |
| D201 | G-9 |
| D206 | G-10 |
| D301 | D-9 |
| D302 | B-9 |
| D401 | D-17 |
| D402 | D-19 |
| D403 | D-15 |
| IC101 | C-6 |
| IC102 | B-2 |
| IC103 | C-10 |
| IC105 | B-5 |
| IC201 | G-7 |
| IC202 | F-7 |
| IC203 | G-9 |
| IC301 | E-7 |
| IC302 | E-9 |
| IC303 | C-7 |
| IC304 | C-7 |
| IC401 | D-15 |
| Q101 | C-9 |
| Q102 | B-9 |
| Q103 | B-10 |
| Q201 | G-9 |
| Q301 | C-9 |
| Q302 | B-9 |
| Q303 | C-9 |
| Q304 | B-9 |
| Q305 | B-9 |
| Q306 | B-9 |

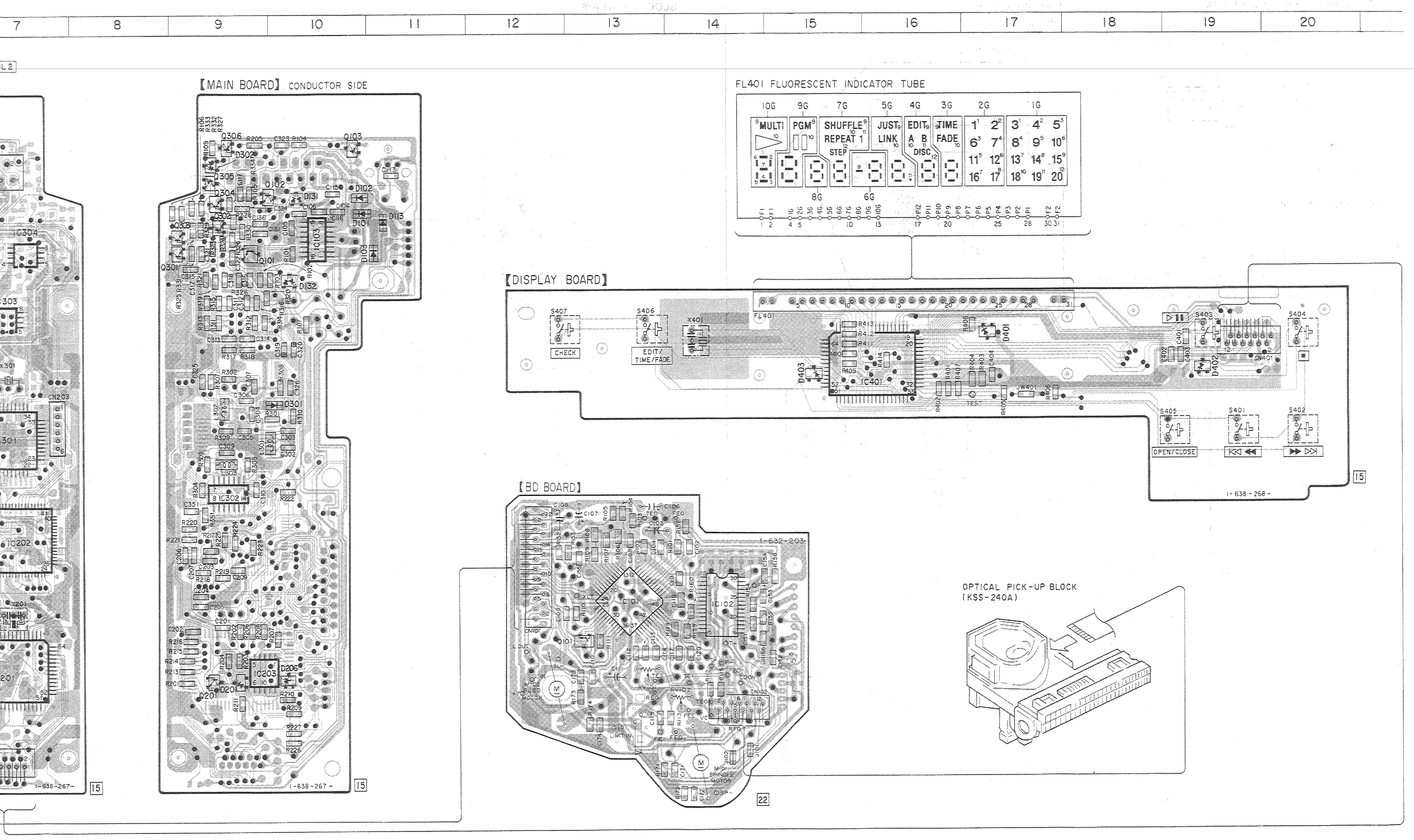
### BD BOARD

| Ref. No. | Location |
|---|---|
| Q101 | F-13 |
| IC101 | F-13 |
| IC102 | F-14 |

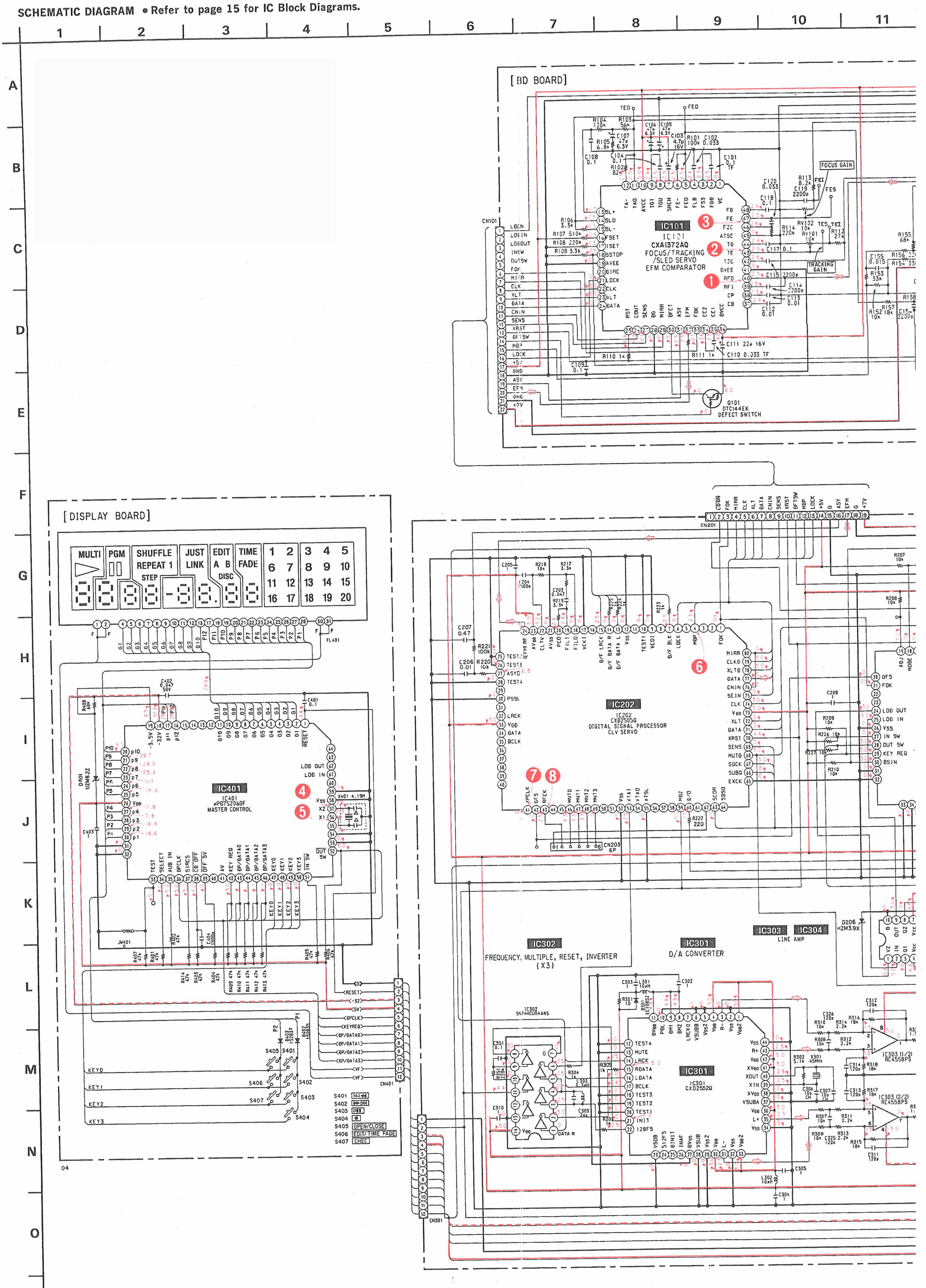
Note:
- o—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

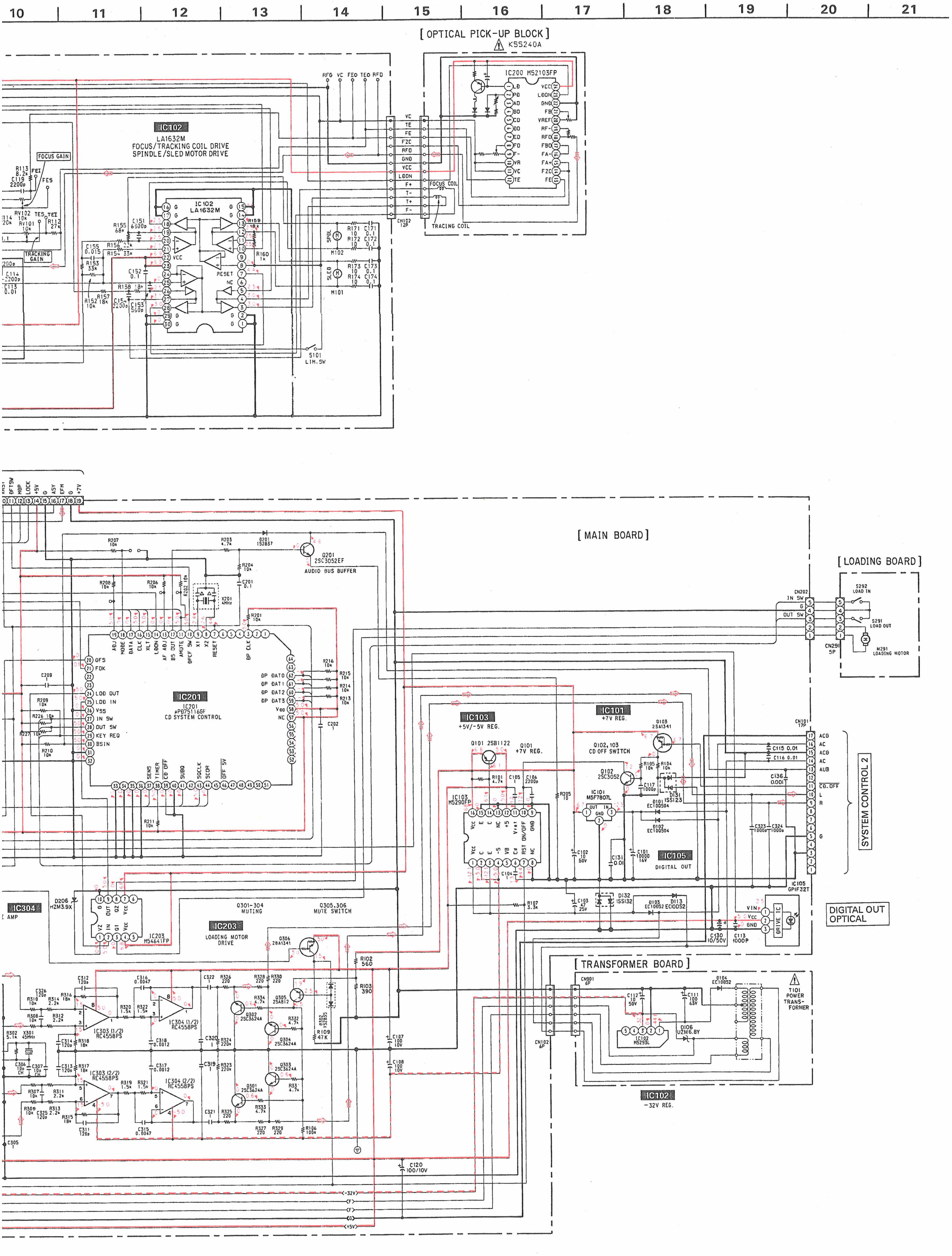
## PRINTED WIRING BOARDS

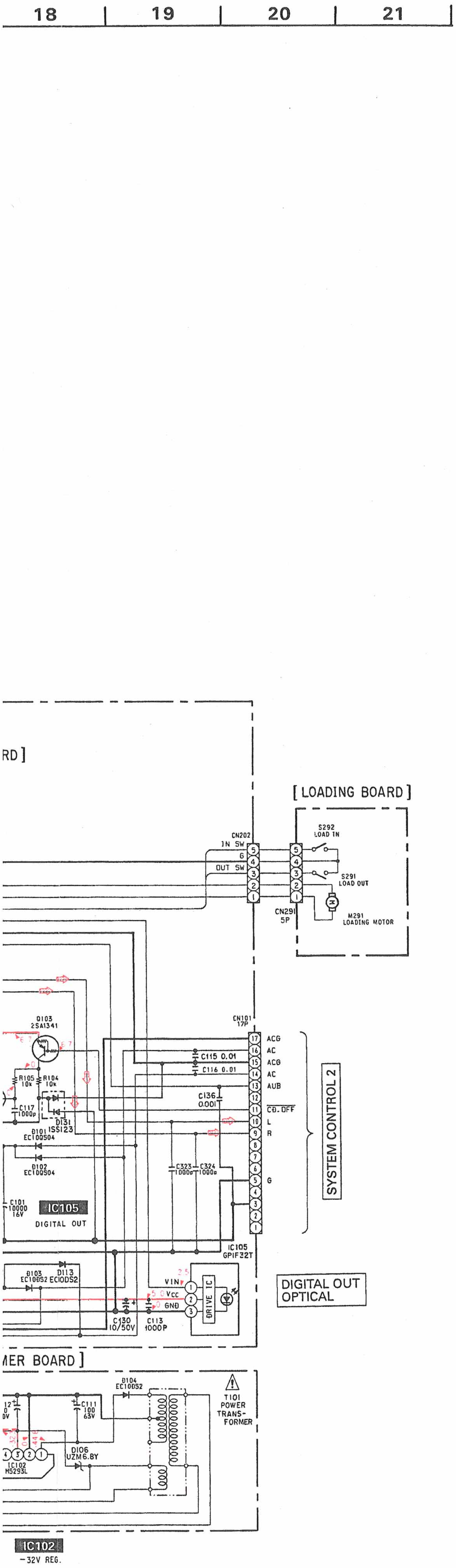

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
【TRANS BOARD】
CN901
C112
C111
IC102
D106
D104
T101 POWER TRANS FORMER
1-638-269-
15
【LOADING BOARD】
S292 LOAD IN
S291 LOAD OUT
CN291
WHT
GRY
M103 LOADING MOTOR
1-634-461-
11
DIGITAL OUT OPTICAL
SYSTEM CONTROL 2
【MAIN BOARD】 COMPONENT SIDE
IC105
C130
CN101
CN102
IC101
C101
IC304
C103
C108
C107
IC303
X301
CN203
IC301
IC202
CN201
X201
IC201
CN202
CN301
C120
1-638-267-
15
04


7
8
9
10
11
12
13
14
15
16
17
18
19
20
【MAIN BOARD】 CONDUCTOR SIDE
IC103
IC302
IC203
1-638-267-
15
FL401 FLUORESCENT INDICATOR TUBE
10G
9G
7G
5G
4G
3G
2G
1G
8G
6G
MULTI
PGM
SHUFFLE
REPEAT 1
STEP
JUST
LINK
EDIT
A B
DISC
TIME
FADE
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
【DISPLAY BOARD】
S407
CHECK
S406
EDIT/
TIME/FADE
X401
FL401
IC401
D401
D402
D403
S403
S404
CN401
JW401
TEST
S405
OPEN/CLOSE
S401
S402
1-638-268-
15
【BD BOARD】
IC101
IC102
CN101
CN102
1-632-203-
SLED MOTOR
SPINDLE MOTOR
LIMIT IN
22
OPTICAL PICK-UP BLOCK
(KSS-240A)

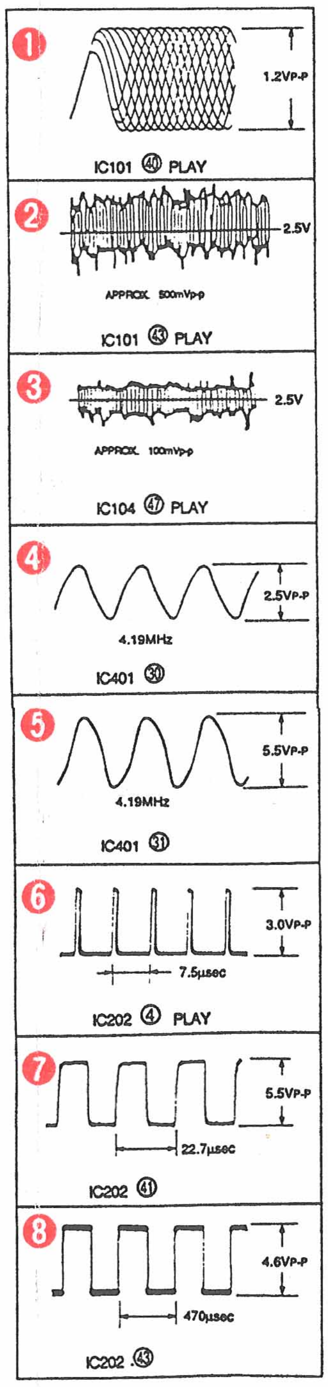
**SCHEMATIC DIAGRAM** • Refer to page 15 for IC Block Diagrams.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
[BD BOARD]
IC101
CXA1372AQ
FOCUS/TRACKING
/SLED SERVO
EFM COMPARATOR
FOCUS GAIN
TRACKING GAIN
CN101
Q101
DTC144EK
DEFECT SWITCH
[DISPLAY BOARD]
MULTI
PGM
SHUFFLE
REPEAT 1
STEP
JUST
LINK
EDIT
A B
DISC
TIME
FADE
FL401
IC401
μPD75206GF
MASTER CONTROL
X401 4.19M
D401
UZM8.2Z
JW401
S401
S402
S403
S404
S405 OPEN/CLOSE
S406 EDIT/TIME FADE
S407 CHEC
KEY0
KEY1
KEY2
KEY3
CN401
CN201
IC202
CXD2505Q
DIGITAL SIGNAL PROCESSOR
CLV SERVO
CN203
6P
IC302
FREQUENCY, MULTIPLE, RESET, INVERTER
(X3)
IC302
SN74HCU04ANS
IC301
D/A CONVERTER
IC301
CXD2552Q
X301
45MHz
IC303
IC304
LINE AMP
IC303 (1/2)
RC4558PS
IC303 (2/2)
RC4558PS
D206
HZM3.9X
CN301
1
2
3
4
5
6
7
8
04


10
11
12
13
14
15
16
17
18
19
20
21
[OPTICAL PICK-UP BLOCK]
KSS240A
IC200 M52103FP
IC102
LA1632M
FOCUS/TRACKING COIL DRIVE
SPINDLE/SLED MOTOR DRIVE
FOCUS GAIN
TRACKING GAIN
CN102 12P
FOCUS COIL
TRACING COIL
M102
M101
SPDL
SLED
S101 LIM.SW
[MAIN BOARD]
[LOADING BOARD]
S292 LOAD IN
S291 LOAD OUT
M291 LOADING MOTOR
CN202
CN291 5P
Q201 2SC3052EF
AUDIO BUS BUFFER
X201 4MHz
IC201
IC201 µPD75116GF
CD SYSTEM CONTROL
IC103
+5V/-5V REG.
Q101 2SB1122
Q101 +7V REG.
IC103 M5290FP
IC101
+7V REG.
Q103 2SA1341
Q102, 103 CD OFF SWITCH
Q102 2SC3052
IC101 M5F7807L
IC105
DIGITAL OUT
IC105 GPIF22T
CN101 17P
SYSTEM CONTROL 2
DIGITAL OUT OPTICAL
IC304
D206 HZM3.9X
IC203 M54641FP
Q301-304 MUTING
Q305,306 MUTE SWITCH
IC203
LOADING MOTOR DRIVE
Q306 2SA1341
IC303 (1/2) RC4558PS
IC304 (1/2) RC4558PS
IC303 (2/2) RC4558PS
IC304 (2/2) RC4558PS
X301 45MHz
Q302 2SC3624A
Q304 2SC3624A
Q303 2SC3624A
Q301 2SC3624A
Q305 2SA812
[TRANSFORMER BOARD]
CN901 6P
CN102 6P
IC102 M5293L
D106 UZM6.8Y
T101 POWER TRANSFORMER
IC102
-32V REG.
C120 100/10V
<-32V>
<F>
<F>
<G>
<+5V>


18
19
20
21
RD ]
[ LOADING BOARD ]
CN202
IN SW
G
OUT SW
S292
LOAD IN
S291
LOAD OUT
M291
LOADING MOTOR
CN291
5P
Q103
2SA1341
R105
10k
R104
10k
C117
1000p
D131
1SS123
D101
EC10QS04
D102
EC10QS04
C101
10000
16V
IC105
DIGITAL OUT
CN101
17P
ACG
AC
ACG
AC
AUB
CD.OFF
L
R
G
C115 0.01
C116 0.01
C136
0.001
C323
1000p
C324
1000p
SYSTEM CONTROL 2
IC105
GP1F32T
D103
EC10DS2
D113
EC10DS2
VIN
VCC
GND
DRIVE IC
C130
10/50V
C113
1000P
DIGITAL OUT
OPTICAL
MER BOARD ]
D104
EC10DS2
C111
100
63V
T101
POWER
TRANS-
FORMER
D106
UZM6.8Y
IC102
M5293L
IC102
-32V REG.

- **Waveforms**



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

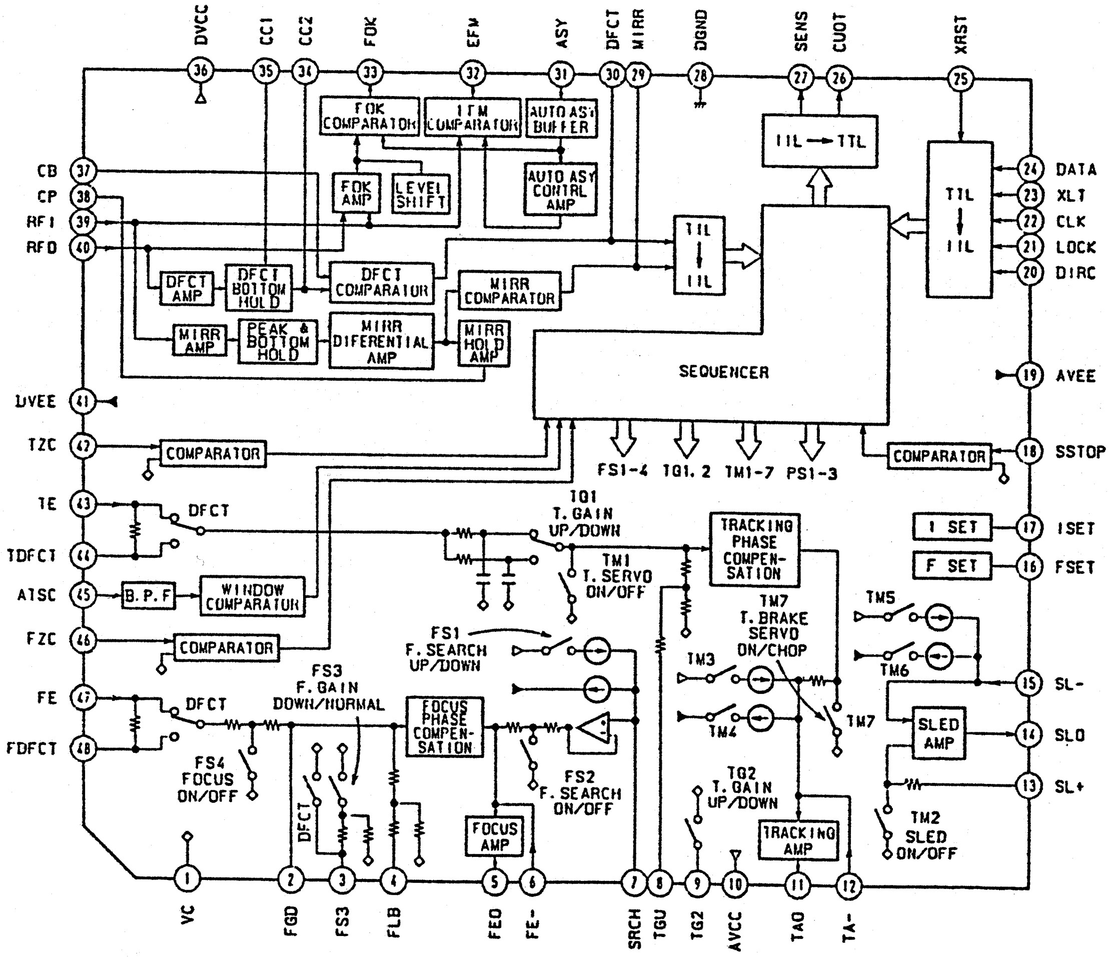
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ━━━ : B+ Line
- ━ ━ ━ : B– Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

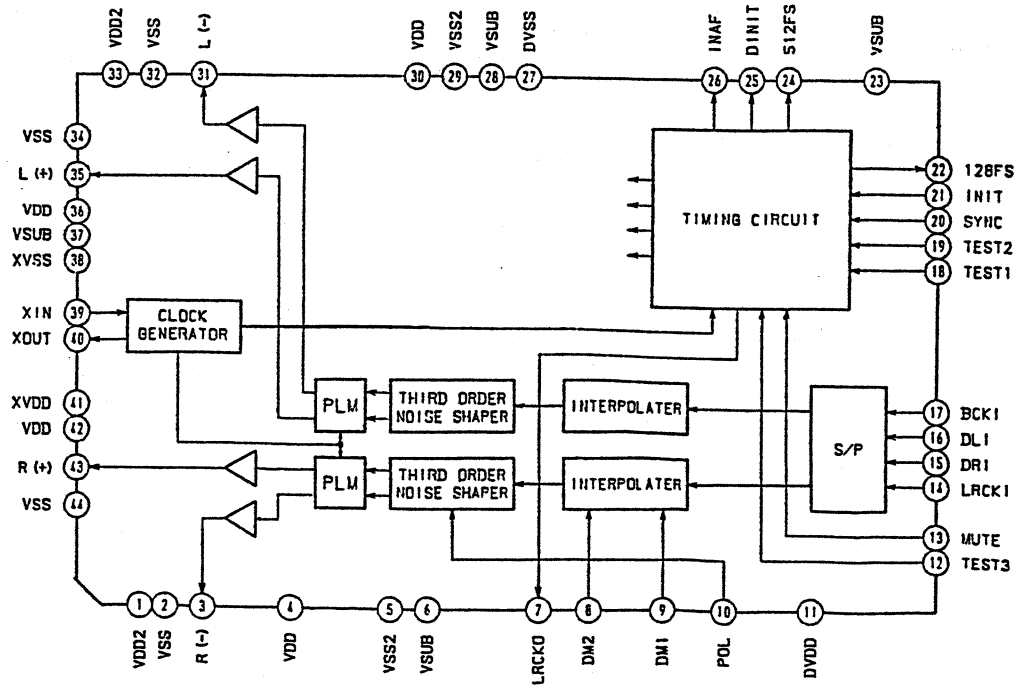
Suppl 1

## • IC Block Diagrams

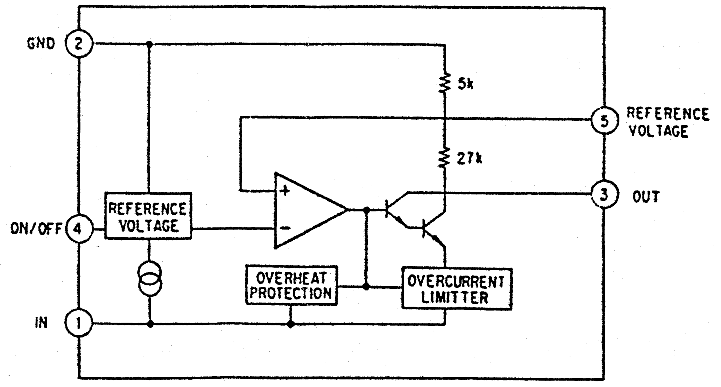
### IC101 CXA1372AQ


DVCC
CC1
CC2
FOK
EFM
ASY
DFCT
MIRR
DGND
SENS
CUOT
XRST
FOK COMPARATOR
EFM COMPARATOR
AUTO ASY BUFFER
AUTO ASY CONTRL AMP
FOK AMP
LEVEL SHIFT
IIL → TTL
TTL ↓ IIL
DFCT AMP
DFCT BOTTOM HOLD
DFCT COMPARATOR
MIRR COMPARATOR
MIRR AMP
PEAK & BOTTOM HOLD
MIRR DIFERENTIAL AMP
MIRR HOLD AMP
SEQUENCER
CB
CP
RFI
RFO
DVEE
TZC
TE
TDFCT
ATSC
FZC
FE
FDFCT
DATA
XLT
CLK
LOCK
DIRC
AVEE
SSTOP
ISET
FSET
SL-
SLO
SL+
COMPARATOR
FS1-4
TG1, 2
TM1-7
PS1-3
DFCT
B.P.F
WINDOW COMPARATOR
TG1 T. GAIN UP/DOWN
TM1 T. SERVO ON/OFF
TRACKING PHASE COMPEN-SATION
I SET
F SET
TM5
TM6
TM7 T. BRAKE SERVO ON/CHOP
TM3
TM4
TM7
FS1 F. SEARCH UP/DOWN
FS3 F. GAIN DOWN/NORMAL
FOCUS PHASE COMPEN-SATION
FS2 F. SEARCH ON/OFF
FS4 FOCUS ON/OFF
FOCUS AMP
TG2 T. GAIN UP/DOWN
TRACKING AMP
SLED AMP
TM2 SLED ON/OFF
VC
FGD
FS3
FLB
FEO
FE-
SRCH
TGU
TG2
AVCC
TAO
TA-

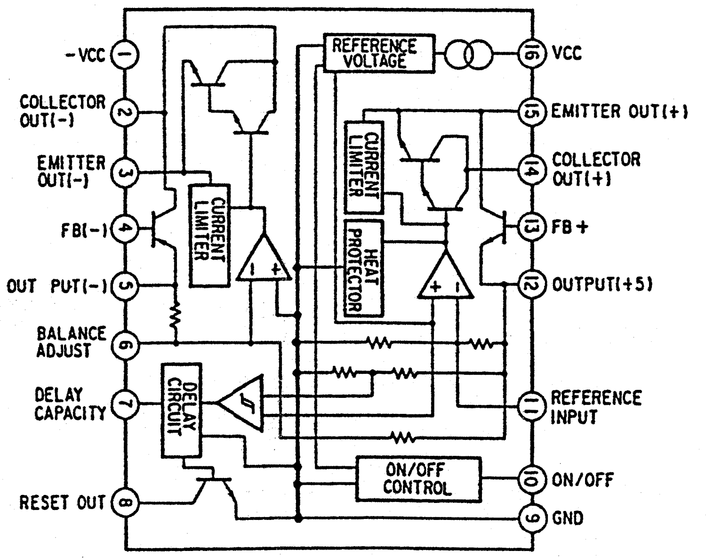
### IC301 CXD2552Q


VDD2
VSS
L (-)
VDD
VSS2
VSUB
DVSS
INAF
DINIT
512FS
VSUB
VSS
L (+)
VDD
VSUB
XVSS
XIN
XOUT
XVDD
VDD
R (+)
VSS
CLOCK GENERATOR
TIMING CIRCUIT
PLM
THIRD ORDER NOISE SHAPER
INTERPOLATER
S/P
128FS
INIT
SYNC
TEST2
TEST1
BCKI
DLI
DRI
LRCKI
MUTE
TEST3
VDD2
VSS
R (-)
VDD
VSS2
VSUB
LRCKO
DM2
DM1
POL
DVDD

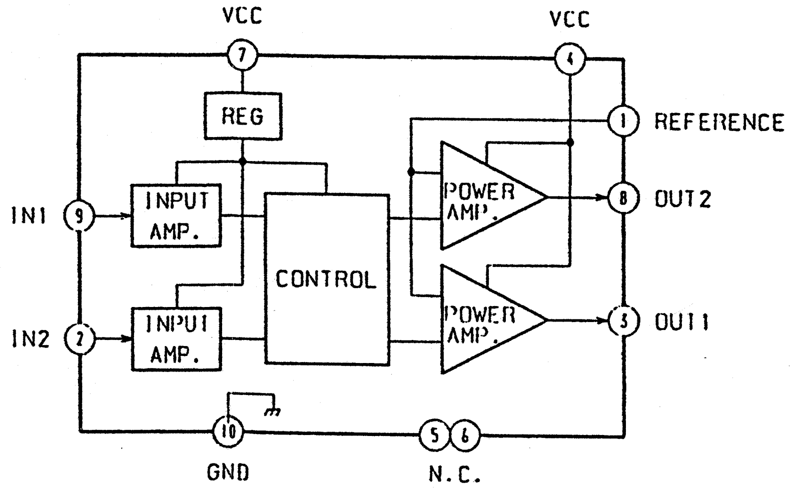
### IC102 M5293L


GND
5k
27k
REFERENCE VOLTAGE
OUT
ON/OFF
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER
IN

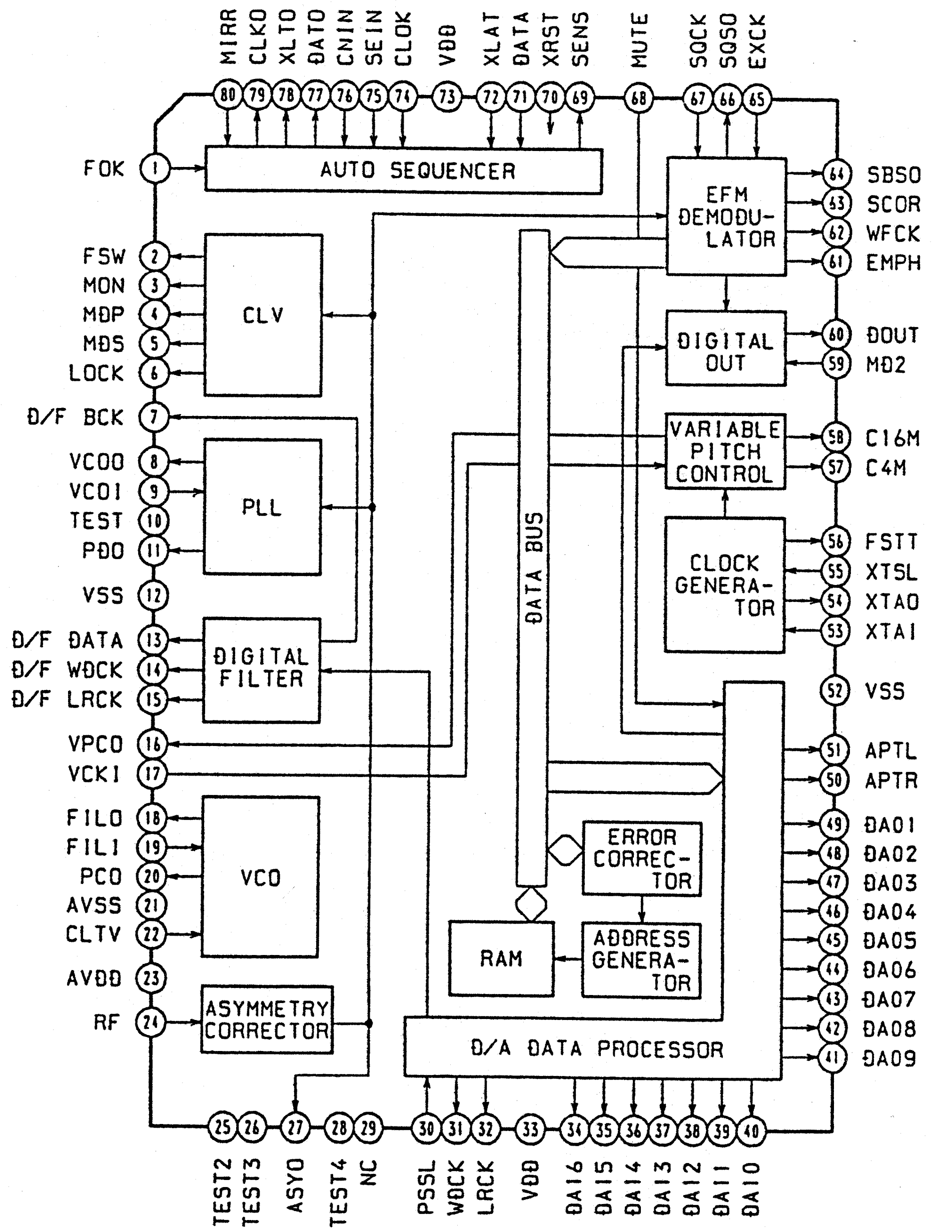
### IC103 M5290FP


-VCC
COLLECTOR OUT(-)
EMITTER OUT(-)
FB(-)
OUT PUT(-)
BALANCE ADJUST
DELAY CAPACITY
RESET OUT
CURRENT LIMITER
REFERENCE VOLTAGE
CURRENT LIMITER
HEAT PROTECTOR
DELAY CIRCUIT
ON/OFF CONTROL
VCC
EMITTER OUT(+)
COLLECTOR OUT(+)
FB+
OUTPUT(+5)
REFERENCE INPUT
ON/OFF
GND

### IC203 M54641FP


VCC
VCC
REG
REFERENCE
IN1
INPUT AMP.
CONTROL
POWER AMP.
OUT2
IN2
INPUT AMP.
POWER AMP.
OUT1
GND
N.C.

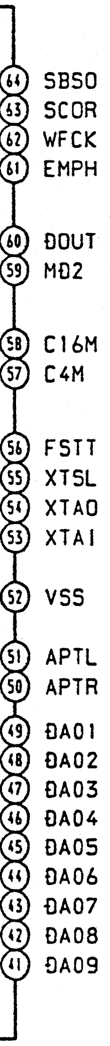
### IC202 CXD2505Q


MIRR
CLKO
XLTO
DATO
CNIN
SEIN
CLOK
VDD
XLAT
DATA
XRST
SENS
MUTE
SQCK
SQSO
EXCK
FOK
AUTO SEQUENCER
EFM DEMODU-LATOR
SBSO
SCOR
WFCK
EMPH
FSW
MON
MDP
MDS
LOCK
CLV
DIGITAL OUT
DOUT
MD2
D/F BCK
VCOO
VCOI
TEST
PDO
PLL
VARIABLE PITCH CONTROL
C16M
C4M
CLOCK GENERA-TOR
FSTT
XTSL
XTAO
XTAI
VSS
DATA BUS
D/F DATA
D/F WDCK
D/F LRCK
DIGITAL FILTER
VPCO
VCKI
APTL
APTR
FILO
FILI
PCO
AVSS
CLTV
VCO
ERROR CORREC-TOR
RAM
ADDRESS GENERA-TOR
DA01
DA02
DA03
DA04
DA05
DA06
DA07
DA08
DA09
AVDD
RF
ASYMMETRY CORRECTOR
D/A DATA PROCESSOR
TEST2
TEST3
ASYO
TEST4
NC
PSSL
WDCK
LRCK
VDD
DA16
DA15
DA14
DA13
DA12
DA11
DA10

**EXPLOD**

The Diff

| Page | |
|---|---|
| 23 | *<br>*<br>*<br>*<br>⚠ |



## EXPLODED VIEW

The Difference between AEP Model and Germany Model.

| Page | AEP model | | | | Germany model | | |
|---|---|---|---|---|---|---|---|
| | Ref. No. | Part No. | Description | Remark | Part No. | Description | Remark |
| 23 | *7 | 4-948-753-11 | PANEL (CDP), BACK | | *4-948-753-21 | PANEL (CDP), BACK | |
| | *10 | A-4649-273-A | DISPLAY BOARD, COMPLETE | | *A-4617-811-A | DISPLAY BOARD, COMPLETE | |
| | *11 | A-4649-275-A | MAIN BOARD, COMPLETE | | *A-4617-805-A | MAIN BOARD, COMPLETE | |
| | 13 | 1-690-753-11 | WIER (FLAT TYPE) (22 CORE) | | 1-535-845-11 | JUMPER, FILM (WITH TERMINAL) | |
| | *14 | 1-642-542-11 | POWER BOARD | | *1-638-269-11 | TRANSFORMER BOARD | |
| | IC105 | 8-749-923-04 | IC TOTX178 | | 8-749-921-12 | IC GP1F32T | |
| | ⚠T101 | 1-450-704-11 | TRANSFORMER, POWER | | ⚠1-450-341-11 | TRANSFORMER, POWER | |

## ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA ..: μA..  uPA..: μPA..
  uPB..: μPB..  uPC..: μPC..  uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-4617-371-A | BD BOARD, COMPLETE<br>****************** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C102 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C103 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C104 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C105 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C106 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C107 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C109 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C110 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C111 | 1-131-367-00 | TANTALUM | 22uF | 10% | 20V |
| C112 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C113 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C114 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C115 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C117 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C118 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C119 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C120 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C151 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C152 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C153 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C154 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C155 | 1-163-023-00 | CERAMIC CHIP | 0.015uF | 5% | 50V |
| C171 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C172 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C173 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C174 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| | | < CONNECTOR > | | | |
| CN101 | 1-568-796-11 | SOCKET, CONNECTOR 22P | | | |
| CN102 | 1-568-795-11 | SOCKET, CONNECTOR 12P | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < IC > | | | |
| IC101 | 8-752-053-73 | IC CXA1372AQ | | | |
| IC102 | 8-759-822-36 | IC LA6532M | | | |
| | | < JUMPER RESISTOR > | | | |
| J101 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| J102 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-901-01 | TRANSISTOR DTC144EK | | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R102 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R103 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R104 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R105 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R106 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R107 | 1-216-114-00 | METAL GLAZE | 510K | 5% | 1/10W |
| R108 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R109 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R110 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R111 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R112 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R113 | 1-216-071-00 | METAL CHIP | 8.2K | 5% | 1/10W |
| R114 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R152 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R153 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R154 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R155 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R156 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R157 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R158 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R159 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R160 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R171 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R172 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R173 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R174 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| RV101 | 1-241-630-11 | RES, ADJ, CARBON 10K | |
| RV102 | 1-241-630-11 | RES, ADJ, CARBON 10K | |

< SWITCH >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT) | |

***********************************************************

| Ref. No. | Part No. | Description |
|---|---|---|
| * | A-4617-811-A | DISPLAY BOARD, COMPLETE |
| | | *********************** |
| * | A-4617-805-A | MAIN BOARD, COMPLETE |
| | | ******************** |
| * | 1-638-269-11 | TRANSFORMER BOARD |
| | | ***************** |
| * | 1-560-242-21 | BUS BAR 4P |
| * | 4-880-403-11 | HEAT SINK |
| * | 4-932-810-11 | CUSHION (FL) |
| | 4-946-509-01 | SPACER |
| | 7-682-548-04 | SCREW +BVTT 3X8 (S) |

< CAPACITOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C101 | 1-126-939-11 | ELECT | 10000uF | 20% | 16V |
| C102 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C103 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C104 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C105 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C106 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C107 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C108 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C111 | 1-126-063-11 | ELECT | 100uF | 20% | 63V |
| C112 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C113 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C115 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C116 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C117 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C120 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C130 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C131 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C136 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C201 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C202 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C203 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C204 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C205 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C206 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C207 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C209 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C302 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C303 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C304 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C305 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C306 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C307 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C309 | 1-163-102-00 | CERAMIC CHIP | 24PF | 5% | 50V |
| C310 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C311 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C312 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C313 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C314 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C315 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C316 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C317 | 1-163-010-11 | CERAMIC CHIP | 0.0012uF | 10% | 50V |
| C318 | 1-163-010-11 | CERAMIC CHIP | 0.0012uF | 10% | 50V |
| C319 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C320 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C321 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C322 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C323 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C324 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C325 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C326 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C351 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C401 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C402 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C403 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C404 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * CN101 | 1-569-624-11 | SOCKET, CONNECTOR 17P(SYSTEM CONTROL 2) | |
| CN102 | 1-568-662-11 | CONNECTOR, BOARD TO BOARD 6P | |
| CN201 | 1-568-802-11 | SOCKET, CONNECTOR 19P | |
| * CN202 | 1-564-339-00 | PIN, CONNECTOR 5P | |
| * CN203 | 1-564-340-00 | PIN, CONNECTOR 6P | |
| * CN301 | 1-573-099-11 | HOUSING, CONNECTOR 12P | |
| * CN401 | 1-573-098-11 | HOUSING, CONNECTOR 12P | |
| CN901 | 1-568-668-11 | CONNECTOR, BOARD TO BOARD 6P | |

< DIODE >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| D101 | 8-719-210-39 | DIODE | EC10QS-04 | |
| D102 | 8-719-210-39 | DIODE | EC10QS-04 | |
| D103 | 8-719-210-33 | DIODE | EC10DS2 | |
| D104 | 8-719-210-33 | DIODE | EC10DS2 | |
| D106 | 8-719-021-59 | DIODE | UZM6.8Y | |
| D113 | 8-719-210-33 | DIODE | EC10DS2 | |
| D131 | 8-719-800-76 | DIODE | 1SS226 | |

## DISPLAY MAIN TRANSFORMER

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| D132 | 8-719-800-76 | DIODE 1SS226 | |
| D201 | 8-719-400-18 | DIODE MA152WK | |
| D206 | 8-719-021-11 | DIODE UZM3.9X | |
| D301 | 8-719-210-33 | DIODE EC10DS2 | |
| D302 | 8-719-104-34 | DIODE 1S2836 | |
| D401 | 8-719-021-77 | DIODE UZM8.2Z | |
| D402 | 8-719-104-34 | DIODE 1S2836 | |
| D403 | 8-719-400-18 | DIODE MA152WK | |
| | | < FLUORESCENT INDICATOR > | |
| FL401 | 1-519-652-11 | INDICATOR TUBE, FLUORESCENT | |
| | | < IC > | |
| IC101 | 8-759-604-86 | IC M5F7807 | |
| IC102 | 8-759-633-42 | IC M5293L | |
| IC103 | 8-759-636-24 | IC M5290FP | |
| IC105 | 8-749-921-12 | IC GP1F32T | |
| IC201 | 8-759-059-86 | IC uPD75116GF-F21-3BE | |
| IC202 | 8-752-340-37 | IC CXD2505Q | |
| IC203 | 8-759-636-20 | IC M54641FP | |
| IC301 | 8-752-334-87 | IC CXD2552Q | |
| IC302 | 8-759-927-29 | IC SN74HCU04ANS | |
| IC303 | 8-759-996-43 | IC RC4558PS | |
| IC304 | 8-759-996-43 | IC RC4558PS | |
| IC401 | 8-759-154-14 | IC uPD75206GF-716-3BE | |
| | | < JUMPER RESISTOR > | |
| JW401 | 1-216-295-00 | METAL CHIP 0 5% | 1/10W |
| | | < COIL > | |
| L301 | 1-410-381-11 | INDUCTOR CHIP 10uH | |
| L302 | 1-410-381-11 | INDUCTOR CHIP 10uH | |
| L303 | 1-410-375-11 | INDUCTOR CHIP 3.3uH | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-804-41 | TRANSISTOR 2SB1122-S | |
| Q102 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| Q103 | 8-729-805-69 | TRANSISTOR 2SA1341 | |
| Q201 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| Q301 | 8-729-107-46 | TRANSISTOR 2SC3624A-L15 | |
| Q302 | 8-729-107-46 | TRANSISTOR 2SC3624A-L15 | |
| Q303 | 8-729-107-46 | TRANSISTOR 2SC3624A-L15 | |
| Q304 | 8-729-107-46 | TRANSISTOR 2SC3624A-L15 | |
| Q305 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q306 | 8-729-805-69 | TRANSISTOR 2SA1341 | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < RESISTOR > | |
| R101 | 1-216-065-00 | METAL CHIP 4.7K 5% | 1/10W |
| R102 | 1-216-043-00 | METAL CHIP 560 5% | 1/10W |
| R103 | 1-216-039-00 | METAL CHIP 390 5% | 1/10W |
| R104 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R105 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R106 | 1-216-097-00 | METAL CHIP 100K 5% | 1/10W |
| R107 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| R109 | 1-216-089-00 | METAL CHIP 47K 5% | 1/10W |
| R201 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R202 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R203 | 1-216-065-00 | METAL CHIP 4.7K 5% | 1/10W |
| R204 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R205 | 1-216-001-00 | METAL CHIP 10 5% | 1/10W |
| R206 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R207 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R208 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R209 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R210 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R211 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R213 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R214 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R215 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R216 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R217 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| R218 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R219 | 1-216-061-00 | METAL CHIP 3.3K 5% | 1/10W |
| R220 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R221 | 1-216-097-00 | METAL CHIP 100K 5% | 1/10W |
| R222 | 1-216-033-00 | METAL CHIP 220 5% | 1/10W |
| R223 | 1-216-049-00 | METAL CHIP 1K 5% | 1/10W |
| R224 | 1-216-049-00 | METAL CHIP 1K 5% | 1/10W |
| R225 | 1-216-049-00 | METAL CHIP 1K 5% | 1/10W |
| R226 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R227 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R301 | 1-216-001-00 | METAL CHIP 10 5% | 1/10W |
| R302 | 1-216-066-00 | METAL CHIP 5.1K 5% | 1/10W |
| R303 | 1-216-049-00 | METAL CHIP 1K 5% | 1/10W |
| R304 | 1-216-049-00 | METAL CHIP 1K 5% | 1/10W |
| R305 | 1-216-049-00 | METAL CHIP 1K 5% | 1/10W |
| R307 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R308 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R309 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R310 | 1-216-073-00 | METAL CHIP 10K 5% | 1/10W |
| R311 | 1-216-057-00 | METAL CHIP 2.2K 5% | 1/10W |
| R312 | 1-216-057-00 | METAL CHIP 2.2K 5% | 1/10W |
| R313 | 1-216-057-00 | METAL CHIP 2.2K 5% | 1/10W |
| R314 | 1-216-057-00 | METAL CHIP 2.2K 5% | 1/10W |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R315 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R316 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R317 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R318 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R319 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R320 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R321 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R322 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R323 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R324 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R325 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R326 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R327 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R328 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R329 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R330 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R331 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R332 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R333 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R334 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R351 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R401 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R402 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R403 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R404 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R405 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R406 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R407 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R408 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R409 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R410 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R411 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R412 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R413 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R414 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| | | < SWITCH > | |
| S401 | 1-572-184-11 | SWITCH, KEYBOARD (⏮ ◀◀) | |
| S402 | 1-572-184-11 | SWITCH, KEYBOARD (▶▶ ⏭) | |
| S403 | 1-572-184-11 | SWITCH, KEYBOARD (▷ ❚❚) | |
| S404 | 1-572-184-11 | SWITCH, KEYBOARD (■) | |
| S405 | 1-572-184-11 | SWITCH, KEYBOARD (OPEN/CLOSE) | |
| S406 | 1-572-184-11 | SWITCH, KEYBOARD (EDIT/TIME FADE) | |
| S407 | 1-572-184-11 | SWITCH, KEYBOARD (CHECK) | |
| | | < TRANSFORMER > | |
| ⚠T101 | 1-450-341-11 | TRANSFORMER, POWER | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < VIBRATOR > | |
| X201 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) | |
| X301 | 1-577-686-11 | VIBRATOR, CRYSTAL (45MHz) | |
| X401 | 1-577-359-21 | VIBRATOR, CERAMIC (4.19MHz) | |

*************************************************************

| | | | |
|---|---|---|---|
| * | 1-634-461-11 | LOADING BOARD<br>************* | |
| | | < CONNECTOR > | |
| * CN291 | 1-564-498-11 | PIN, CONNECTOR 5P | |
| | | < SWITCH > | |
| S291 | 1-571-924-11 | SWITCH, LEAF (LOAD OUT) | |
| S292 | 1-571-924-11 | SWITCH, LEAF (LOAD IN) | |

*************************************************************

MISCELLANEOUS
*************

| | | | |
|---|---|---|---|
| 12 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| 13 | 1-535-845-11 | JUMPER, FILM (WITH TERMINAL) | |
| 16 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| ⚠105 | 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| M101 | X-4917-523-3 | MOTOR ASSY, SPINDLE | |
| M102 | X-4917-504-1 | MOTOR ASSY, SLED | |
| M291 | A-4608-362-A | MOTOR (L) ASSY | |

*************************************************************

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

# SS-H2700

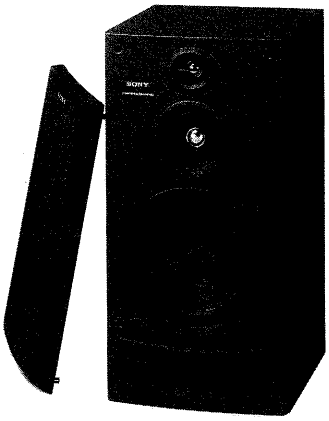
# SERVICE MANUAL

*AEP Model*
*UK Model*

## SPECIFICATIONS

| | |
|---|---|
| Speaker system | 3-way |
| Speaker units | Woofer : 14cm, cone type<br>Mid-range : 6 cm cone type<br>Tweeter : 2 cm, dome type |
| Enclosure type | Bass reflex |
| Nominal impedance | 6 ohms |
| Power handling capacity | Music 70W |
| Sensitivity | 89 dB (1W, 1m), 5W (96 dB, 1m) |
| Frequency range | 55Hz to 20,000Hz |
| Dimensions | Approx. 182x362x225mm (w/h/d) |
| Weight | Approx. 4.1kg per speaker, net<br>Approx. 9.0kg in shipping carton |

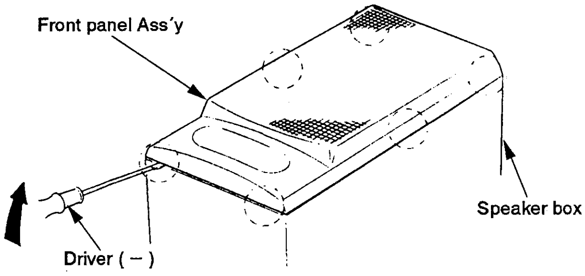
Design and specifications subject to change without notice.



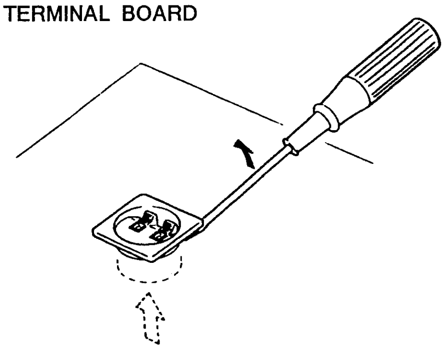
This set is the speaker system in MHC-2700 and MHC-2750.

## 1. DISASSEMBLY

### 1-1. FRONT PANEL ASSY

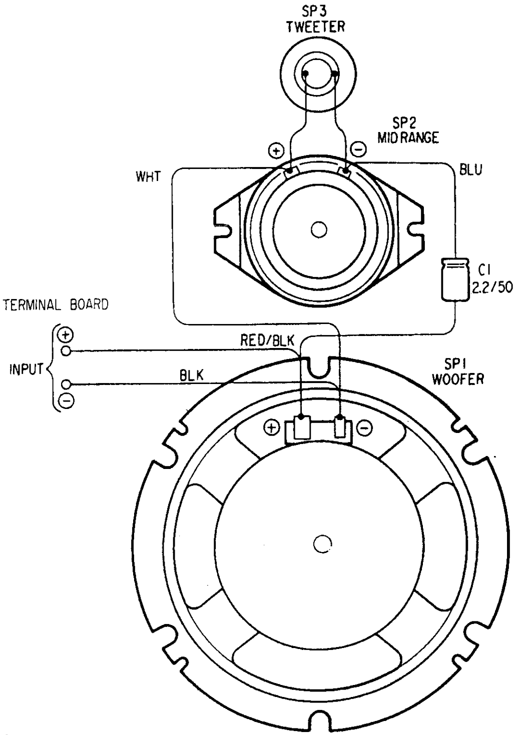

Front panel Ass'y
Speaker box
Driver ( – )

### 1-2. TERMINAL BOARD



- Hit the terminal with the back of a screwdriver from the inside, and tap it out.
- Insert a slotted screwdriver at the rim of the terminal and remove as shown in the figure.

## 2. WIRING DIAGRAM


SP3
TWEETER
SP2
MID RANGE
⊕
⊖
WHT
BLU
C1
2.2/50
TERMINAL BOARD
⊕
INPUT
⊖
RED/BLK
BLK
SP1
WOOFER
⊕
⊖

SPEAKER SYSTEM

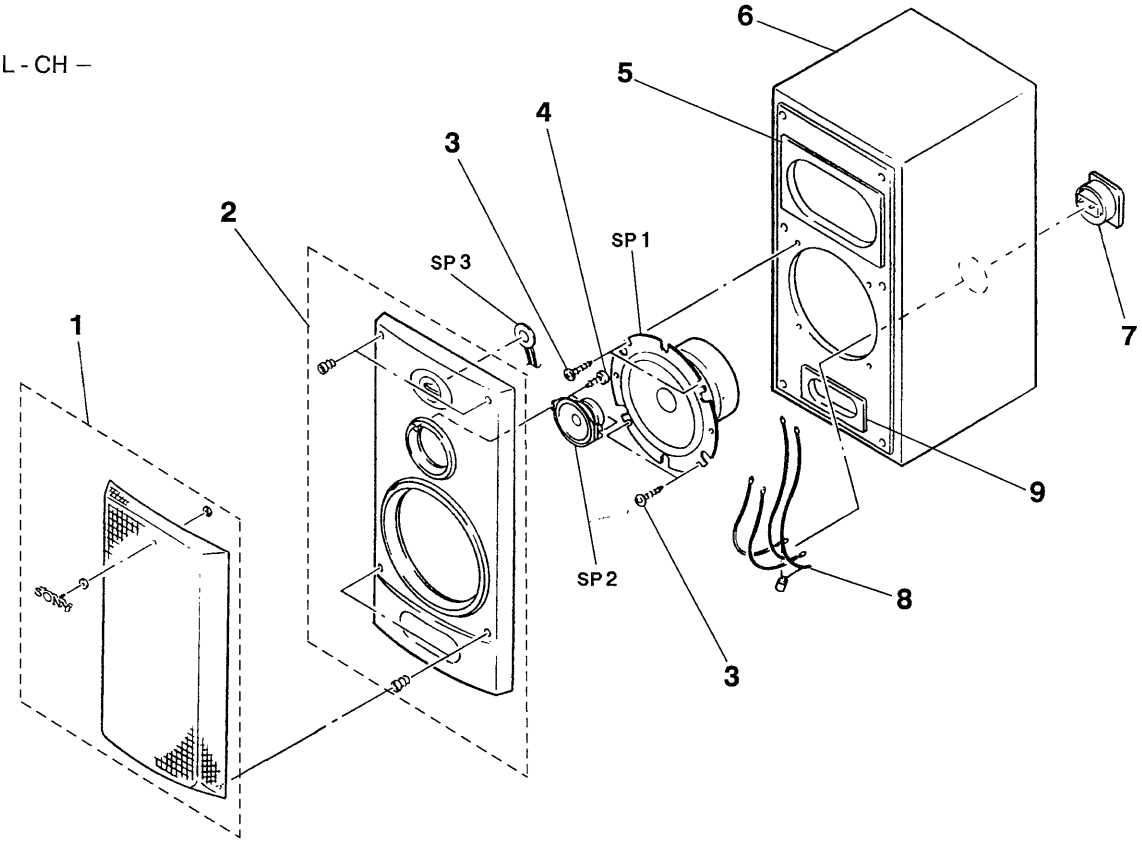
SONY®

## 3. EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  G:Germany
  IT:Italian

– L - CH –



| | Ref. No. | Part No. | Description | Remark |
|---|---|---|---|---|
| | 1 | T-8150-539-A | GRILLE FRAME ASSY (UK) | |
| | 1 | T-8150-541-A | GRILLE FRAME ASSY (AEP, G, IT) | |
| | 2 | T-8150-537-A | FRONT PANEL (L) ASSY (UK) | |
| | 2 | T-8150-547-A | FRONT PANEL (L) ASSY (AEP, G, IT) | |
| | 2 | T-8150-538-A | FRONT PANEL (R) ASSY (UK) | |
| | 2 | T-8150-548-A | FRONT PANEL (R) ASSY (AEP, G, IT) | |
| | 3 | T-8151-871-1 | TAPPING SCREW +P 4.0X12 (UK) | |
| | 3 | T-8150-573-1 | TAPPING SCREW +P 4.0X15 (AEP, G, IT) | |
| | 4 | T-8151-870-1 | TAPPING SCREW +P 3.5X9.5 (UK) | |
| | 4 | T-8151-863-1 | TAPPING SCREW +P 3.5X8 (AEP, G, IT) | |
| | 5 | T-8151-845-1 | GASKET FOR TWEETER | |
| | 6 | T-8151-836-1 | SPEAKER BOX (UK) | |
| | 6 | T-8151-838-1 | SPEAKER BOX (AEP, G, IT) | |
| | 7 | T-8151-042-1 | TERMINAL BOARD | |
| | 8 | T-8150-543-A | WIRE KIT ASSY (UK) | |
| | 8 | T-8150-546-A | WIRE KIT ASSY (AEP, G, IT) | |
| | 9 | T-8151-846-1 | GASKET FOR DUCT | |
| | SP1 | 1-544-644-11 | SPEAKER UNIT (13cm CONE) | |
| | SP2 | 1-544-650-11 | SPEAKER UNIT (6cm CONE) | |
| | SP3 | 1-544-293-31 | SPEAKER UNIT (2cm PIEZO) | |
| | | | < ACCESSORIES & PACKING MATERIALS > | |
| | | T-8151-827-1 | INSTRUCTION MANUAL (UK) | |
| | | T-8151-829-1 | INSTRUCTION MANUAL (AEP, G, IT) | |
| | | T-8110-521-1 | SPEAKER CORD | |
| * | | T-8151-820-1 | CARTON (UK) | |
| * | | T-8151-822-1 | CARTON (AEP, G, IT) | |
| * | | T-8151-803-1 | CUSHION (A) | |
| * | | T-8151-851-1 | CUSHION (B) | |

English
92F0659-1
Printed in Japan

©1992.6

9-957-109-11

Sony Corporation
Audio Group

Published by Customer Relations and Service Group